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ORIGINAL DEPARTMENT.

LECTURE.

INTRODUCTORY.

DELIVERED BY PROF. HUGO ENGEL, A. M., M. D.,

In the Aula of the Medico-Chirurgical College, at the Commencement of the Winter Course, October 1st, 1884, at 8 p. m.

GENTLEMEN: When my colleagues of the Faculty elected me to deliver the introductory lecture at the beginning of this winter course, though fully appreciating the honor thus conferred upon me, I hesitated, whether to accept or not. The main reasons causing this hesitancy were my doubt in my ability and the difficulty of selecting a subject worthy of the occasion. The reorganization of our college has given a new impetus to every teaching force connected with it, while the medical profession at large is watching with interest the development of the new medical school. The words spoken by its representative on the day of commencement might be weighed and be used in forming an opinion as to whether the college is entitled to occupy the high position which it has selected for itself.

This fact made the choice of a subject difficult; it was still more so to treat the one selected in a masterly manner. If I should fall short in what you may have a right to expect from the representative of a faculty having as its members so many learned men, kindly attribute it to my inexperience in speaking on occasions like these, and imagine that the Faculty had appointed me to show, what the youngest of its members might achieve, and myself judge according to the Roman saying:

"Ut desint vires tamen est laudanda voluntas!"

After all, when I had determined to accept the proffered honor, and came to consider the subject, I did not long in remain doubt.

There is a large class of diseases producing the deaths of more than five-sevenths of the population of the earth. For three thousand years human ingenuity had tried in vain to discover the pathogenic cause of these maladies, which are now known by the name of zymotic or infectious diseases. It would take days and weeks to read the history of all the many fruitless efforts, which were made to establish the truth. But though slow, progress was sure, and the patient researches of thousands of master-minds during many generations have at last been triumphantly rewarded. In a conference of the most eminent medical authorities recently held in Berlin, the whole subject was earnestly debated and scrupulously weighed, and the result of these deliberations, so eventful for our glorious science and art, has been to pronounce the germ-theory established and proven.

Cast your eyes, gentlemen, all over the horizon of science: where is the discovery so important, so pregnant with results which promise the greatest boon to humanity—freedom from infectious disease? Reflect for one moment on every great discovery made in the various branches of science, and on its consequences! Then glance forward in the future, and imagine to yourselves the ultimate results of the discovery of the pathogenic element of infectious diseases! The time will come, and at no distant day, when every zymotic disease will be stamped out, be driven from the face of the earth! Great and noble as is the thought,

mark my word, it is no sanguine hope; some of us will still live and see the scourge of the human race—tuberculosis—and every one of its allied fiends, subdued and made harmless forever. And not that alone. I shall tell you this evening of some discoveries, the news of which reached me but a few days ago, which make it certain that we shall soon be able, not only to destroy the contagion of infectious disease, but even to tear from the fecundated ovum, from the spermatozoe, when on its way which nature ordained, from the ovum, ere it enters the fallopian tube, and from the placenta, which nourishes the fœtus, the germ of inherited disease; for this hitherto invisible agent, that once mysterious force which transmitted a taint of the organism from the parent to the child, from generation to generation, has been tangibly demonstrated.

I suppose you will agree with me, that there is no subject more appropriate for consideration at the opening exercises of a college which, as ours, takes the most advanced stand in medical education, than that of the "Modern Germ-Theory." So recent is this discovery, that but few disconnected statements of it have appeared in print on this side of the Atlantic, and many of its most important data are scarcely understood by the profession at large. I concluded, therefore, to give you this evening a resumé of what has been achieved, and of what is known and has been proven, concerning the germ theory. But one of the authors most eminent in bacteriology, has thus far given us an authoritative report of the results obtained in this field—the well-known Baumgarten,* whose laborious work appeared but a few weeks ago in the German language; and as I am no authority on the subject, you will be glad to hear that every statement I shall make this evening, surprising as some may be, comes directly from this eminent authority, and is given, whenever practicable, in his own words; while the most important results derived from the researches of Koch, I have gleaned from Koch's five-hour speech, which, at the request of the Berlin Medical Society, he made before a committee of conference, consisting of such lights as Virchow, Leyden, Frerichs, DuBois Reymond, and others.

At the boundary between the vegetable and animal kingdom there is an immense empire of minute beings, too small to be visible to the naked eye. So difficult becomes here the distinction between animal and plant, that for a long time even experts were in doubt to which of the two kingdoms these micro-organisms belonged. The question seems not yet definitely settled, though the majority of the observers incline to the belief that they must be classed to the vegetable kingdom. There are two great subdivisions of these minute beings: Hyphomyceti and Schizomyceti. The first, so-called moulds or fungi, multiply mainly by the aid of spores. They are parasites, many of which give rise in the human being to diseases of the skin and mucous membrane, as favus, aphthæ, etc. The propagation on the other hand of the schizomyceti takes place mainly by division, and it is with the last we have here to do.

Most of the schizomyceti having a rod-like shape, they have received the generic term of bacteria, from the Greek word Τὸ Βακτήϑιον, the rod. But not all bacteria are so formed, and according to their morphological peculiarities they are subdivided as follows:

1. Micrococci or Cocci, characterized by their circular shape.

2. Bacilli, by which term are understood all rod-shaped bacteria, whether short or long.

3. Bacteria proper, as which science recognizes only the very shortest bacilli.

4. Vibriones, also rods, but of wavy shape.

5. Spirilli, forming short stiff screws; and,

6. Spirochaeti, which appear as long flexible screws.

To give you an idea of the productive power of these bacteria, using the name in its general meaning, if they are brought under favorable conditions for their development—to which conditions belong heat, proper soil, oxygen, and in one kind moisture—let me mention some facts given by the great bacteriologist, Ferd. Cohn, which are really astounding. Of one single bacterium, which during the first hour has divided into two, these within another hour into four, and within three hours into eight, after 24 hours have already become 16½ millions, after two days 281½ billions, and after three days 47 trillions. If in this manner the development and multiplication could progress unimpeded, the breed of bacteria, springing from one germ of about $\frac{1}{500}$ mm. in length, and $\frac{1}{1000}$ mm. in thickness, within less than five days would completely fill all the oceans of the earth; and the descendants of one single micrococcus, whose weight is so little that 1600 millions of them weigh but one grain, would within three days reach the enormous weight of 15 millions pounds.

If nature had placed no impediments in their way, how soon would these diminutive little beings overpower every living organism! But they can propagate only under certain conditions. For in-

*Deutsch. Med. Zeit., 1884, p. 169 et seq.

stance, their most common kind, the septic bacteria, cannot obtain sustenance from the healthy living organism. For most others the first condition necessary for their development is their entrance into the living human or animal body; and what difficulties they have here to overcome, may be judged from the fact that in the blood and tissues of *healthy* beings not a single bacterium has ever been found.

But the enormous propagation of septic bacteria at once begins where death has interrupted the mechanism of life, and the organized tissue having ceased its motion, is decomposed, decays, ferments, and putrefies. And it is to-day a recognized fact, undisputed by any authority, that the process of putrefaction, by which the dead organized substance loses the form and the composition of its constituent parts, is not only accompanied by the development of bacteria, but in fact caused by it and kept up by it alone. Or, as Ferd. Cohn expresses it: "Without the vital activity of bacteria, all beings would continue their shape and composition even after their death, as well as the Egyptian mummies, the giants buried in the Danish turf-moors, or the cadavers of mammoths and rhinoceros, which, for innumerable thousands of years frozen in the ice of Siberia, have continued uninjured with a whole skin, and simply because they existed under conditions which made a propagation of bacteria an impossibility." But not decay and putrefaction alone are caused by these microbes; there are many chemical processes, known by the name of fermentations, which the celebrated researches of Schwann, Pasteur, Ferd. Cohn, and others, have proven to depend upon the vital process of bacteria, or other micro-organisms related to them. For instance, alcohol-fermentation, the process by which sugar is changed into alcohol and carbonic acid, is caused by the activity of the yeast-plant. When fermented fluids become acid, the fact depends upon the change of the alcohol, they contain, into vinegar; and as Pasteur has demonstrated, the excitor of the vinegar fermentation is another bacterium. If milk becomes sour, a rod-shaped schizomycete is responsible for it; and the peculiar phenomena known as pigment-fermentations, owe their origin to a micrococcus. The remarkable incident, which in times passed-by caused so much religious superstition, viz., that on food, and especially on the holy wafer used in communion, suddenly appeared a drop of blood, or rather of red coloring matter, simply depends upon the decomposition of animal and vegetable substances produced by the same micrococci (Monades prodigiosæ, Ehrenberg). Many other discolorations brought about in moist air on potatoes, cheese, boiled eggs, etc., all originate in the action of micrococci, while the bluish and yellowish tint sometimes assumed by milk, and the green and blue color of pus, are produced by rod-bacteria.

But, as Baumgarten says, the researches of modern times have demonstrated the fact with positive, undoubted certainty, that the activity of bacteria is not limited to the decomposition of *dead* organic substances, but that it also extends its fiendish power to the destruction of the processes of life of the highest organized beings—the human race and the animals nearest to it. Amongst many innocuous schizomyceti, there are some pathogenic kinds, which not only live and easily propagate in the interior of the living organism of warm-blooded animals, but which even seem to find there their only conditions of existence.

Many years ago the suspicion was awakened that some of the infectious diseases are caused by living organized poisons. It is remarkable that in 1840 Henle published in his work a series of logical deductions, based upon scientific facts, by which he proved the necessity of a contagium vivum being the pathogenic cause of infectious diseases. What he then supposed, to-day is proven.

But a new impetus was given to these researches, when facts became known which showed, that parasites were far oftener responsible for morbid conditions than had ever been dreamed. Certain diseases of the skin and of the mucous membrane (as favus, herpes tonsurans, aphthæ, etc.,) were proven to be caused by parasites; and Virchow finally demonstrated that a very dangerous internal disease, trichinosis, hitherto supposed to be due to a miasm, was produced by the immigration of a highly-organized animal organism, the trichina spiralis.

As logical conclusions, based upon scientific data, pointed to a contagium vivum, and as the definite proof had been adduced of parasites acting as morbid agents in and upon the human body, the idea more and more took hold of the medical profession, that in every infectious disease a living contagion was the pathogenic element. And during the last decade—especially, however, during the last two or three years—discoveries have been made, establishing the correctness of this view.

The first discovery of this kind Pollender and Brauell made, independently of each other, by detecting peculiar small rods in the blood of animals and human beings suffering from anthrax.

Thanks to the labors of Davaine, Bollinger, Klebs, Pasteur, and especially Koch, it is now generally recognized that these small rods are genuine bacteria, species bacilli, and that they are really the pathogenic cause of anthrax.

Investigators next succeeded in demonstrating the constant presence of certain bacteria in all morbid processes belonging to the great group of septico-pyæmic diseases. The definite proof of their character as pathogenic elements has thus far been given by Klebs of the micrococci causing septic cystopyelonephritis; by Rindfleisch, Klebs, and others, of the micrococci producing septicæmia and pyæmia; by Lücke and Kocher of the cocci inducing osteomyelitis, and those of erysipelas by Nepven, Orth, Billroth, Klebs, etc. Also in septic ulcerative endocarditis, whose cause was so long an enigma to physicians, the constant presence of micrococci-colonies can be easily demonstrated. The micro-organisms of diphtheria have not yet been discovered; neither have those of variola, scarlatina, morbilli, acute yellow atrophy, and hæmophilia neonatorum been detected. But the micrococci causing gonorrhœa, discovered by Meisser, and those of croupous pneumonia, detected most recently by Friedlander, are now recognized as elements constantly present in these diseases.

The discovery of Obermeyer—who, by the by, was a school-friend of mine, and lost his life by these investigations—that in the blood of persons suffering from relapsing fever during the febrile stage innumerable screw-bacteria were invariably found, produced a deep impression upon investigators, and soon from all sides proofs were adduced. As further acquisitions, definitely proven, may be considered the discovery of lepra-bacilli by Hausen and Weisser; of the typhoid bacilli by Klebs, Eberth, Koch; of the tubercle bacilli by Koch and Baumgarten; of the bacilli of glanders by Schütz and Israel. They can easily be demonetrated in recent cases, if the methods of investigation described by their discoverers be employed; and their constant occurrence in the diseases mentioned is generally acknowledged. The bacteria described as syphilis-bacilli by Klebs and others, and the malaria-bacilli, detected by Marchiafava, Klebs, and Tommasi, have not been confirmed by the other observers. While enumerating these discoveries, I will ultimately mention that of Koch, who found in the intestines and the dejections of cholera patients the so-called comma-bacillus never absent.

We may say, therefore, that in a large number of general and local infectious diseases, peculiar schizomyceti, with special characteristics in every malady, have been proven to be constantly present. The view once held that, what had been taken for bacteria, were really products of the granular decomposition of tissues, may be said to have long since exploded. The recent improvements in bacterioscopic technic, and the discovery of the pure-culture of these microbes by Klebs, Pasteur, Koch, Ehrlich, and others, have enabled investigators to give undoubted scientific proof of the existence and recognition of the bacteria. There, further, is to-day no longer the slightest suspicion of their being a post-mortem product. But the following view is still held by some authors: They do not deny the existence of bacteria; they do not dispute the fact that in each of the infectious diseases thus far investigated, a special bacterium exists, which is not met with in any other disease; and they admit, therefore, the constant presence of each bacterium discovered in the human being suffering from the disease of which it is characteristic—but they contend that bacteria are not the pathogenic elements of these diseases, but the diseases being due to something else, simply bring the blood and tissues into conditions which make them a suitable soil for the development of the bacteria; and as each bacterium—a fact they also acknowledge— needs a special soil for its propagation, they do not think it strange that a special kind should be met with in each disease.

Certainly this may all be possible; but modern science has not been satisfied with demonstrating the fact that in each infectious disease there is constantly met with a special bacterium; they have daily adduced sharper and stronger proofs that these bacteria are by no means accidental occurrences or products of these diseases, but that they are their pathogenic causes. The whole subject has been carefully investigated by Baumgarten and his co-workers. But before I enter upon the proof of the correctness of the modern germ-theory, I wish to show you with a few words that the view held by some opponents is not tenable.

If the bacteria were found in the diseased tissues, simply because the disease prepared for them the soil, there should be one instance on record where the disease, if but for one hour, had preceded the bacteria. But not only has such a fact never been observed, but in cases where, as in cholera, the victim had died within one hour after the first symptom of the disease, and where the time was too short for the preparation of a soil, or the multiplication of bacteria, the con-

trary has been proven, for enormous quantities of bacilli were found in the intestines of such individuals. Besides, introduce one of these bacteria into the circulation of an animal liable to the disease, and no matter how healthy the animal before, the malady, of which the bacterium is the pathogenic cause, will at once develop itself. Lastly, in complaints, as relapsing fever, where a week of comparative health is followed by a week of fever, with the very first symptom of the febrile period, and, as Obermeyer demonstrated, within five minutes after the increase of temperature, the blood of such a patient, which was normal during the interval, is loaded with the characteristic spirochaeti. Is it not more natural to assume that the spirochaeti, having entered the organism, gradually developed and multiplied, and at their maturity caused the febrile symptoms, than to think that somewhere in the immediate neighborhood of the patient, or in some obscure corner, billions of these bacteria should be hovering around, eagerly waiting for the happy moment, when the fever should break out, then to swoop down all at once upon the individual and saturate his blood with them within a few minutes? Remember, gentlemen, there never has yet been found a part of the body, the seat of an active and recent morbid process due to an infectious disease, where the characteristic bacteria have not been discovered. Though these facts clearly prove that the view of the opponents of the germ-theory is not tenable; and though their objection, now disproven, is the only one still raised against this theory, we will investigate the direct proofs in favor of the pathogenic character of the bacteria.

In favor of their pathogenic character would doubtless be the fact that a special bacterium, differing totally morphologically, chemically, and physiologically, from all other common septic bacteria, has been demonstrated as constantly present during life in the blood, and after death in the tissues in only one disease, that it can develop without impediment within the healthy living organism, and there always produce certain characteristic symptoms of its own kind.

The pathogenic schizomycete of most peculiar shape is the spirochaete of relapsing fever. Though a somewhat similarly-formed bacterium vegetates in the mucus adhering to the teeth, a microbe of exactly its screw-like shape has not been found in the blood of any other disease. And though a person rarely dies of relapsing fever, the spirochaeti have been demonstrated only in the blood of the living human being, and very rarely after death. And what is an almost certain proof of its pathogenic character is the fact beforementioned, that during the febrile period enormous numbers of these spirochaeti are met with in the blood, while they disappear synchronously with the cessation of the febrile seizure. There is but one proof wanting—inoculation of the human being, and artificial production of the disease. Who will sacrifice himself for this purpose?

The next most peculiar bacterium is the bacillus of anthrax. Of this it is known that under pure culture the colonies of anthrax-bacilli grow in a manner utterly at variance from that of any other bacterium. Further, in the blood of animals and human beings suffering from anthrax, colossal quantities of these colonies have been discovered, but not a single other bacterium; and the same anthrax-bacillus has not yet been found in the healthy blood of the human being or of any animal, nor in that of beings suffering from any disease but anthrax. But another proof of their pathogenic character has been adduced in the fact that only such material, taken from a body affected with anthrax, will, if inoculated, again give rise to the disease, as contains the living anthrax-bacilli. Even specimens containing dead spores were innocuous. But blood or tissue of a case of anthrax, whether years old or recent, decomposed and putrefied or fresh, if it contained but living anthrax-bacilli, invariably caused the disease. And should there have been still left a doubt, Koch's pure-culture method has finally given the clearest proof, at least as clear as human ingenuity can make it. By this method the anthrax bacilli—and no other foreign substance whatever—are artificially cultured. And whenever but one of these anthrax-bacilli was injected into the circulation of an animal, it at once caused all the familiar symptoms of the disease. Since this last proof no further objection has been raised by any authority, and we may, therefore, say, that of the anthrax-bacillus the scientific proof of its pathogenic character has been given.

Another special kind are the tubercle-bacilli, discovered by Koch and Baumgarten. They do not possess any peculiar shape, but the sum of their bacteriological peculiarities characterizes them as a separate botanical species. They belong to the smallest of all bacilli, and can, therefore, not be easily mistaken for those of anthrax or others of larger size, but they can also be morphologically distinguished from other varieties, for they are considerably finer and are not rounded at their ends, as those of typhoid fever, which they somewhat resemble. They further form endogenous spores, and are not capable of motion, as

the septic bacteria. The greatest likeness exists between the tubercle-baciili and those of lepra and glanders. But the lepra-bacilli possess motion, and are pointed at their ends, while those of glanders are thicker and provided with clumsier spores. Their difference, however, becomes still more apparent when they are colored. While the bacilli of lepra and of glanders, as of most bacteria, evince a great affinity to aniline colors, the tubercle bacilli, though they may be stained by the same, become so only after long exposure to their influence. Once colored, however, they retain the tint with far greater tenacity, than any other bacterium, not easily yielding the coloring matter under the influence even of strong acids, a peculiarity besides possessed only by the lepra-bacilli, while those of glanders at once lose their artificial color, when brought in contact with acids. But the easiest way of distinguishing the tubercle-bacilli is based upon their manner of growth, when artificially cultured. They grow only at a temperature of 99° 104° Fahrenheit, and do so with a remarkable slowness, forming dry, compact, scale-like vegetations, evincing a peculiar bend, never penetrating into the culture-albumen and never causing it to become fluid—while the bacilli of glanders already on the third day in the same soil form small transparent drops, and those of lepra after eight days make the surface of the soil watery, and then multiply rapidly in the fluid serum. Other bacteria grow in this soil at a far lower temperature, form colonies of greatly different shape, and penetrate deeply into the serum.

The following facts have been proven regarding the tubercle-bacilli:

They form a separate species, with peculiarities not possessed by any other bacterium.

In recent tubercular new-growth, only these and no other bacilli have been met with.

They were found only in tubercular formations, and nowhere else.

In all recent tubercular tissues they are present in numbers corresponding to the extent of the lesion.

While from these facts, and from what I mentioned before, there could scarcely be left a doubt of their being the pathogenic element of tuberculosis, the final scientific proof of their pathogenic character was given by the following two observations:

Koch succeeded—and the experiment has been repeated by other competent authorities with the same result—by inoculation of animals with tubercle-bacilli, artificially cultured by him—in causing the same group of symptoms in these animals, that we consider as characteristic of tuberculosis in the human being, and the post-mortem examinations revealed the morbid lesions of tubercular phthisis.

Baumgarten established the facts—also verified by other investigators—that tubercular tissue infects only when containing tubercle-bacilli capable of development and multiplication; that the morbid formation, called tubercle, forms only at such places of the tissues of the infected animal, as have previously been the seat of the development and multiplication of the tubercle-bacilli in large numbers; that the extent of the morbid lesion and the quantity of immigrated cells are directly proportional to the number of tubercle-bacilli present in the tissues; and finally, that wherever the tubercular process has ended, a simultaneous disappearance of the bacilli will be noted.

In the face of such complete proofs all doubt must cease, and I am glad to be able to announce that all competent authorities have at last acknowledged the tubercle-bacilli as pathogenic elements of tuberculosis.

With the same clearness the proof has been adduced in the case of the bacilli of glanders; for besides all the usual facts in favor of this view, it has been demonstrated that the discharge of a horse affected with glanders, if deprived only of its pathogenic bacilli, loses its power of contagion, while these bacilli alone, if artificially cultured, will give rise to the same disease in any horse inoculated with them. The existence and the pathogenic character of the bacilli of lepra has also been generally recognized.

Of typhoid fever and cholera the bacilli have been discovered—the first by Klebs and others, the second by Koch—and every proof has been given of their character, except one—inoculated, they have not given rise to the same disease in animals, as they cause in human beings. But, gentlemen, are there not many diseases which attack the human race but do not affect animals? Can you ever produce syphilis in any animal except in the monkey? And can physicians inoculate a human being with tuberculosis, typhoid fever, cholera, or any similar fatal disease?

As long as criminals sentenced to death are not handed over to the medical profession for such experiments, we will never be able to adduce the final proof. The idea might seem horrible at first sight, but is it really so? A murderer is sentenced to death. Human society must protect itself, and erect such barriers as capital punishment for its own safety. The individual, therefore, is doomed. If left the choice to suffer capital pun-

ishment or to give himself up for *one* medical experiment, for I would limit it to one, does he run a greater risk? If inoculated, for instance, with the bacillus typhosus, he may die :—yes, but he may also escape. But the debating of this interesting question would lead me too far. Let me only add that I think I could guarantee to the physicians of that State which would pass a law of this kind an early scarcity of subjects; so great is the power of superstition, that criminals fear greatly more the scalpel than the guillotine.

But what other proofs than those mentioned do men expect, who still doubt the pathogenic character of the bacteria? Let me give you a resumé of the facts established for instance in tuberculosis—facts upon which all authors have agreed.

In every part of the lung, when the tubercular process is still actively going on, there are found micro-organisms, which, in their morphological character, in their manner of responding to the action of anilin colors, and in their mode of growth and multiplication under pure culture, evince distinguishing points at variance with those of all other bacteria, so that they must be considered as forming a separate botanical species known as tubercle-bacilli.

As long as the tubercular process is actively going on in the tissue, no other bacteria are met with in the latter.

If there exist complications, as inflammation of the meninges of the brain, or of the kidneys, etc., in a person suffering from tubercular phthisis, these same bacilli are found in the brain, the kidney, etc.

The tubercle-bacilli have never been discovered in any other disease.

An animal, inoculated with a piece of tubercular lung, in which living bacilli are no longer present, will not become infected by the disease.

But if the most minute part of such a tissue contains one single tubercle-bacillus capable of development, and is introduced into the circulation of an animal, the tubercular disease will invariably spring up in the latter.

If the tubercle-bacilli are artificially cultured, and the smallest particle of such a pure colony be injected into an animal, this rapidly begins to suffer from tubercular phthisis, always provided the animal be such, as to possess by nature the capability of contracting the disease.

Sputa from phthisical patients, in whom the tubercular process has, for a time, come to a standstill, and which, therefore, do not contain any tubercle-bacilli, are incapable of causing the disease.

On the other hand, sputa, in which bacilli are present, may be dried, powdered, and kept for several months, and if they then still contain reproductive bacilli, as they generally will do, they will, if in the form of powder and mixed with the atmosphere they are thus inhaled by animals or carried in some other way into their organisms, produce tubercular consumption in them.

The most characteristic type of the pathological lesion of phthisis, the tubercle, is never met with except in a tissue previously attacked by tubercle-bacilli.

Can there still remain a doubt, gentlemen, under these circumstances? Though in cholera, Koch did not succeed in developing, by inoculation with the so-called comma-bacilli, the Asiatic cholera in animals, as this disease does not seem to attack them, besides the facts already mentioned he made three observations, which have not appeared in print this side of the Atlantic, but two of which have exactly the nature of self-inoculations, and all of which conclusively prove the pathogenic character of the comma-bacilli.

Individuals laboring under any irritation of their intestinal canal are most liable to attacks of Asiatic cholera. While Koch was in Toulon a French sailor, completely recovered from typhoid fever, was to be discharged from the hospital at 12 o'clock at noon on a certain day, and received notice to that effect at 9 o'clock in the morning. I might mention, that though many cases of typhoid fever have been examined, of individuals who died of the disease during a cholera epidemic, only the typhoid bacilli, but never those of cholera, have been found. At ten o'clock the same morning the sailor was taken sick with cholera in its most virulent form, and died within one hour at 11 o'clock, while Koch was in the hospital. The French physicians at once notified him, knowing that such a case of all others could prove or disprove the correctness of the germ theory and the pathogenic character of the comma-bacilli. Within six minutes after death the abdomen of the sailor had been opened, and the intestines, which did not evince the least morbid lesion except the well-healed typhoid ulcerations, were laid bare. Their watery contents were found to swarm with innumerable comma-bacilli in their purest culture. Twenty-four hours later, the French government admitted the epidemic to be the genuine Asiatic cholera.

In a village in Egypt about thirty persons had contracted cholera. An investigation resulted in the discovery, that the disease had been introduced into the village by two women, and that these

women had previously been washing the linen of cholera patients. Some linen of this kind was examined. Wherever the places soiled by cholera dejections were still moist, they were found to be full of living comma bacilli; places totally dry contained but decayed, dead bacilli.

In a village near Calcutta several hundred persons had been attacked in the most rapid succession by cholera. As several neighboring places, though nearer to Calcutta, where the cholera then existed as an epidemic, were free from the plague, the circumstances were inquired into, and it was proven that those people in the infected village who had contracted the disease, had all been drinking the water from one tank. Two days before the outbreak of the epidemic in this village, the linen of cholera patients had been washed in this tank! The tank was at once investigated, and all pieces of decaying wood or other organic residues in the tank were found to be inhabited by an astounding number of comma-bacilli.

What more proof is needed?

To enumerate all the various species of micrococci which have been proven pathogenic elements, would lead me too far. I will only state the fact that scientists agree that the proof has been given of erysipelas, that it is caused by micrococci. But another important discovery will probably still more convince the doubting. Under the name of pebrine a disease is known, which causes great ravages amongst the silk-worms. This malady is also caused by micrococci, and it has a special interest in the fact, also but a few days ago brought to my notice, that it probably indicates to us the hereditary influence observed in some maladies, viz.: the pebrinecocci penetrate as well into the ova as also into the cells of the semen of the diseased worms. The news comes from Europe, that following the advice of Pasteur, the manufacturers of silk and growers of silk-worms in Lyons have by a microscopical examination determined the affected though apparently healthy ova and destroyed them, and that the consequence of this procedure has been the complete arresting of the further propogation of the disease, which had threatened to cause untold damage.

Does any one still doubt?

Just as not all hyphomyceti are dangerous to the skin and mucous membrane of the human and animal body, so there are amongst the schizomyceti varieties which do not give rise to infectious diseases. To these positively non-pathogenic bacteria belong the bacterium termo, the cause of putrefaction, many micrococci, as the common pigment-cocci, then the so-called hay-bacilli, many other bacilli, producing fermentation, and most real vibriones, spirilli, and spirochaeti.

Then there are bacteria, not strictly pathogenic, but dangerous to the human race, as they put up their abode in parts of the organism which have lost most of their vitality, or have become mortified, and in which these microbes cause putrid decomposition, whose products, if absorbed and carried into the blood, act as poisons upon the system. To these belong all septic bacteria: they develop only under the conditions named, and in the healthy living being they cannot propagate.

Some varieties again, as the bacilli of lepra, relapsing fever, typhoid fever, cholera, etc., multiply only in the human organism, while others grow and develop in the animal body alone, and again others do so in both.

Still it may surprise, when considering the power of multiplication of these bacteria, their presence in enormous quantities in diseased tissues, and the fact that morbid material alive with them, and products of tissue-change from the infected organism reach in various ways the outer world, and there are spread through the air, in water, food, etc.—it may surprise, I say, that under these circumstances in the course of a long life not every human being becomes the victim of all the various pathogenic bacteria, and affected with all the infectious diseases. Let us consider this question.

A large part of the pathogenic schizomyceti is not capable of development and multiplication except under conditions, such as they exist only in the interior of the living human (animal) organism. It is true, they may be artificially cultured outside the living human body, but only under the same conditions as they find in the latter. Beef-tea, chicken-tea, and the serum of the blood, or these combined with gelatine and continually kept at a temperature of about 100°, are not met with ready-made anywhere in nature save in the living human or animal body. These bacteria, called endogenous microbes, cannot preserve, therefore, in the world outside the living body, their virulent properties, or but for a short time; their multiplication, upon which their pathogenic character depends in the outer world, under natural conditions, is, therefore, an utter impossibility. The best representatives of this class are the bacilli of tuberculosis, lepra and glanders, and the spirilli of relapsing fever. In general, infection with such endogenous schizomyceti is, therefore, possible only when you are brought into direct contact with the diseased body, or its r

cently discharged products, or if you approach very near to them; and the danger of infection by contact or by near approach will greatly depend upon the fact whether the pathogenic bacteria can pass through the air in sufficient quantities, and in a fertile condition, over into another living human body, or whether for this end a more or less continuous contact of fluid or solid morbid material, containing the living bacteria with the injured skin or mucous membrane, is a necessity. In cases of this kind the general spread of the disease may be prevented by the avoidance, exclusion, and disinfection of the ejections of such patients. Such an endogenous parasite, which may be called a volatile carrier of disease, is the bacillus of relapsing fever; while as an instance of the second kind, representing the fixed contagion, infection only by contact, the bacillus of glanders may be named.

A peculiar position in this respect is occupied by the tubercle-bacilli. Experiments have proven that they do not pass from the phthisical lung directly into the atmosphere. Certainly sputa containing them may, when dry, spread the bacilli with the dust through the atmosphere, but experience has shown that infection is rarely caused in this manner. Baumgarten, Koch, and others, have also demonstrated the fact that from a slight abrasion or cut in the skin the tubercle-bacilli do not penetrate into the interior of the human organism.

But I now come to the latest and perhaps the most important discovery, which, especially if considered with reference to the well-established fact of the remarkably slow growth of these bacilli, will throw new light upon this question. In the apparently healthy semen of tubercular men, in the ova of tubercular women, and in the placenta of a fœtus, tubercle-bacilli have been found. At the recent meeting of the German Society of Natural Scientists in Freiburg, Weigert presented a number of apparently healthy testicles and prostata of tubercular men, and demonstrated to the satisfaction of those present tubercle-bacilli in these organs. The conclusions which might be drawn from these observations open a wide field for our reflection, but their considera tion here would cause me widely to overstep the limits of this paper.

There are besides many other circumstances which explain the fact that not all human beings are infected, for instance, with tubercle bacilli. Decomposition and other factors prevent or weaken the growth of these bacteria; and considering the many conditions which must all be present to favor their multiplication, we should be rather surprised that so many suffer from the disease. But their presence in the sexual organs gives also here the explanation.

The danger of infection would appear to be greater in ektogenous pathogenic micro-organisms, *i. e.*, those which can develop and multiply also outside the living being. But experiments have shown that an infection by simple inhalation, as formerly suppposed, is by no means frequent in these cases, and with some varieties, as for inst., anthrax, it never takes place. The anthrax bacilli, if they do not develop directly in an open sore or wound, must be swallowed, and cannot infect the human being simply by being inhaled. The bacteria of pyæmia and septicæmia, the comma-bacilli of cholera and others, can neither become dangerous to the human organism if inhaled; while the cocci of pneumonia seem to be the only ektogenous schizomyceti which threaten the human being in this manner alone.

It is an undoubted fact that we may easier escape from a danger coming to us in the shape of the water we drink, or the food we eat, or threatening us by contact, than we could guard against the inhalation of bacteria. The first we may prevent, the last we cannot. Then nature herself has taken care that these microzymes shall not overwhelm the human race. As I said before, so many conditions must favor the development of the most virulent micro-organisms, that the observations thus far made promise, that the day will not be distant, when we shall succeed in driving the whole breed from the neighborhood of civilized humanity.

Reflect for one moment on the practical results already gained by Koch's discovery of the comma-bacillus of cholera. It has been proven that this bacillus *living* cannot pass the *healthy* human stomach; that acids, especially sulphuric acid, kill it; that decomposing and putrefying animal and vegetable refuse destroy it; and that this bacillus can live at the most but twenty-four hours if deprived of moisture. How do these statements compare with experience and known facts?

It has been demonstrated in the epidemics of this and last year in Egypt, Calcutta, and Europe, that only persons suffered from the epidemic whose alimentary canal already was in a state of irritation, but that nobody fell a victim to the disease whose stomach was in a healthy condition. It is well known that on Sundays, especially in Europe, people are far more apt to overload themselves with eating and drinking and to spoil their digestion, than on any other day. Well, statistics have

proven that by far the greatest number of fresh cases in the infected districts happened on Mondays. The total and most thorough disinfection of sinks, sewers, etc., was without influence on the progress of the disease—a fact now explained by what I mentioned before. Sulphuric acid, if administered in the prodromic stage of diarrhœa, in every case prevented the outbreak of the real disease: we now know the reason. Is there an instance on record, where in a place which had been visited by an epidemic of Asiatic cholera, this disease had totally stopped—say over winter—and reappeared the next year? No: and why? Koch's discovery tells us that the comma-bacillus has no permanent existence—it dies out and must be introduced into any district *de novo*.

I could adduce many other instances proving the correctness of the germ theory as established by undoubted facts, but I fear I have already seriously misused your patience.

Let us hope that the discoveries concerning the pathogenic elements of infectious diseases will soon be completed in a manner which will give us the power to protect humanity against its most insidious and most dangerous enemies. The time will soon come when the world will acknowledge the gratitude it owes to our noble profession. But while glancing ahead at the near future, picturing to us the eminence whence medicine will look down upon the human race which it freed from diseases that had decimated mankind for thousands of years, that had baffled the skill of the brightest intellects of generations upon generations, let us confess the necessity of elevating more and more the standard of medical education.

And where can I express this hope with greater certainty of seeing its realization than here, in the aula of our college, where the members of its faculty are united for that one great end:

To admit to the study of medicine but men of the highest academical education;

To teach them most thoroughly every department and collateral branch of our profession; and,

Ultimately, to grant the diploma of the college only to graduates of its alma mater, whom the world will acknowledge as most accomplished gentlemen, and most thoroughly trained and scientific physicians.

May our hopes be realized, and may our noble profession achieve as its ultimate goal the freedom of the human race from all disease, and secure to all obeying its teachings a peaceful slumber as their painless end.

Medical Societies.

CHICAGO MEDICAL SOCIETY.

Regular meeting August 18, 1884, Dr. D. A. K. Steele, president.

"Cutaneous Therapeutics," by Dr. P. C. Jensen.

"Infant Feeding, and Summer Diseases of Children," by Dr. C. W. Earle.

"A Theory of the Cholera, or Two Theories of the Mode of Advancement of Cholera," by Dr. John Bartlett.

"Remarks on Cutaneous Therapeutics"

is the subject of a thesis that Dr. P. C. Jensen is pleased to term a paper that he read before the Chicago Medical Society, at the date the subjoined papers were read, of which the following principal points are appended:

Inasmuch as the integument retains many of its primitive characters from early embryonic life, when it dipped into interior of the body by deep folds and involutions, to be subsequently differentiated into organs for special function, as alimentary canal and accessory organs, furnishing prolongations to the formation of spleen, kidneys, bladder, external and internal genital organs, etc., and owing to the fact that in all instances the excretory organs consist essentially of limitary membrane, forming part of the integument of the body, or its involutions, that the lachrymal, salivary, pancreatic, and mammary glands are in like manner composed of a continuation of the limitary membrane of the true skin, or of the mucous membrane lining, the alimentary canal involuted into tubes and follicles, the free surface of which is covered with epithelial cells, etc., it is from this early embryological relation of the true skin to internal organs which furnish us so essential a factor in therapeutics of disease. In cutaneous diseases, as in lesions of internal organs, it is worth remembering that much of the functions of disabled organs can be carried on by compensatory action of neighboring organs. In congestion of the kidneys we relieve and deplete by bringing the skin and bowels into energetic action, and by removing the burden we rest the overworked kidney; conversely, eliminating by all the emunctories is essential in treatment of diseases of the skin. * * * Upon the back of a horse Colin caused water impregnated with potassic cyanide, to drip for five hours; the percussion effected destruction of the sebaceous matter, with absorption of the cyanide, and poisoned the animal. In Vienna, patients have remained immersed in a bath for weeks and months without any perceptible degree of absorption taking place. Usually the small quantity absorbed is either introduced by points of transition between the skin and mucous membrane, or the orifices of the sebaceous and sudoriparous glands. When the cutaneous surface of a limb is immersed in putrid gases, absorption takes place (Bichats), and the poison is subsequently eliminated by the bowels. The rate and degree of absorption of any medicine will depend largely on its power of diffusion. Physiologically the skin may be considered a colloidal septum, on one side of which lie the blood-vessels containing an alkaline fluid, while an acid is on the other side—a condition most favorable

to osmosis. Medicinal substances in aqueous solution slowly permeate the skin to enter the circulation. Alkaloids dissolved in chloroform are readily transferred through the skin into the blood-vessels, while alcoholic and aqueous solutions are either not at all or very slowly absorbed (Waller, whose observations were made with chloroformic solutions of atropia, aconitia, morphia, and strychnia). The same physiologist determined that alcohol, mixed with chloroform, did not retard absorption, but alcohol alone caused an osmotic flow. With these remarks as a foundation, we proceed to the "Therapeutics in Local Treatment of Skin Disease," which consist, for sake of convenience:

1. Protectives—air to be excluded when its contact is injurious.

2. Cleanliness, through ablutions, removal, and prevention of disease products.

3. To check or limit liquid disease products, whether sanguineous, sebaceous, serous, or puriform.

4. The remedies should act directly, without injury to surrounding parts. To fulfill these requirements we have (*a*) emplastra, (*b*) unguenta, (*c*) tincturæ, (*d*) dry powders, (*e*) alcoholic and etherial solutions, (*f*) chloroformic solutions, (*g*) oleo-palmitates. The most common to be used are the metallic oxides and salts of the following metals: Pb., Ag., Hg., Zn., Cu., Al., also various astringents, sedatives, and anodynes, of organic origin. Of the local remedies, the most recent ones are salicylic acid, goa or aroba powder, chrysarobin, chrysophanic acid (Balmanno Squire), pyrogallic acid (Jarisch), and napthol (Kaposi). Tilbury Fox uses goa powder formed into a paste with water, applied to psoriatic patches, and retained in position with collodion. Sessemann employs chrysophanic acid 6 grammes to collodion 4 grammes. Pick recommends chrysarobin gelatin of different strength, and applies glycerine over the gelatin after application. Unna proposes chrysarobin plaster. Mülle, ointment of chrysophanic acid spread on muslin. But, as the writer states, all these methods will often produce dryness, irritation, pain, and tenderness, therefore are impracticable. Dr. Kohn uses a solution which he terms traumaticin, as

℞.	Refined gutta percha,	part one.
	Chloroform,	parts ten.

The following advantages are claimed for it: it forms a thinner and more delicate covering than collodion or gelatin, causing neither tension nor pain. Traumaticin is of itself a neutral covering and protective remedy. Ten per cent. solutions of it, when applied to large surfaces, do not cause irritation; besides, it produces more uniform pressure than collodion, glycerine, or gelatin. The writer has treated a number of cases of psoriasis and obstinate chronic eczema substantially as follows: In most cases there were present either a debilitated constitution, gouty diathesis, anæmia, neurasthenia, etc. Particular attention was paid to each constitutional dyscrasia. For removal of waste toxic debris, and for derivative effects by eliminants, *locally*, after removal of crusts, scabs, etc., an alkaline lotion was thoroughly applied, causing saponification of the sebaceous material, and inducing an alkaline reaction preparatory to osmosis and absorption.

℞.	Sodic bicarb,	ʒj.—4 grammes.
	Potassic hydrate,	ʒss.—2 grammes.
	Aqua pura,	Oj—128 grammes.

M. S.—Apply thoroughly at night.

The following ointments have answered admirably in the writer's experience:

℞.	Pulv. camphoræ,	ʒj.—4 grammes.
	Chloroformis,	q. s. ft. sol.
	Acid chrysophanic,	gr. xx.—1.320 grammes.
	Pulv. opii,	ʒss.—2.000 grammes.
	Cosmolinæ,	℥j.—30.000 grammes.

M. S.—Apply freely after using alkaline lotion.

Or,

℞.	Pulv. camphoræ,	ʒj.—4.000 grammes
	Chloroformis,	q. s. ft. sol.
	Acidi tannici,	gr. xx.—1.320 grammes.
	Pulv. opii,	ʒss.—2.000 grammes.
	Cosmo. vel vaselinæ,	℥j.—30.000 grammes.

M. S.—To be used as above.

Chloroformic solutions are clean and efficient. Thus,

℞.	Camphoræ,	ʒij.—8.000 grammes.
	Acid chrysophanic,	ʒss.—2.000 grammes.
	Tr. opii,	ʒss.—16.000 grammes.
	Chloroform,	℥j.—32.000 grammes.
	Alcohol,	q. s. ad. ʒij.—q. s. ad. 64.000 grammes.

M. S.—Apply with a silk sponge.

Or,

℞.	Camphoræ,	ʒij.—8.000 grammes.
	Acid carbolici,	ʒss.—2.000 grammes.
	Tr. opii,	ʒss.—16.000 grammes.
	Chloroformi,	℥j.—32.000 grammes.
	Spts. vin. rect.,	q. s. ad. ʒij.—q. s. ad. 64.000 grammes.

M. S.—Apply with a soft sponge at night after bathing with the alkaline lotion.

The writer has also tried the "liq. gutta percha" as a vehicle for chrysarobin, tannic and carbolic acids, which he stated is very efficient. A number of additional formulæ, with general remarks, concluded this paper.

We have selected the following, which acts charmingly for neuralgia, especially of the fifth pair, or hemicraniæ. The acid is added to diffuse it, and that it may be more readily absorbed:

℞.	Menthol,	ʒj.
	Morphiæ sulphatis,	gr. iij.
	Tr. aconite radix,	ʒij.–ʒiij.
	Chloroform,	ʒiij.
	Spts. camphoræ,	ʒij.
	Acid phosphor. (dil.),	gtt. xx.

M. S.—Apply locally.

Neuralgia, which is symptomatic of some pathological condition, the cause of which should be sought for and, if possible, removed, in order to establish a permanent cure.

DISCUSSION.

Dr. C. E. Webster inquired of the reader what his experience had been with the oleates to be absorbed by the fatty substance? If these were not equally as efficient to favor absorption as acids, and if by a conjoined method of using both simultaneously we could not gain time in treating skin diseases?

Dr. H. J. Reynolds thought the paper to be a scientific one, and worthy the effort the writer had made in presenting it. Over-taxation of some of the organs from deficiency of actioh of other organs, with insufficient action of the skin, is a cause. Some forms of skin disease are more prevalent in cold weather, as, for instance, psoriasis, while others are seen more often during the hot season. The great aim in the treatment is to perfect the equilibrium of the action of the skin and other organs. We rely too much on specifics, and physicians are often defeated in alleviating their cases by placing too great reliance in those remedies. Yet mercury, iodine, quinine, and arsenic, will enter largely into the treatment, undoubtedly. But there are external causes producing it—more than we generally suppose—therefore we must rely considerably on external treatment. The digestive tract, also, will require our attention, doubtless, in many cases. Another remedial agent of which the value is frequently underestimated, is electricity. Nothing fulfills the indications so well many times as its local use.

Dr. C. W. Earle asked the writer of the paper, or any of the members, if using chrysophanic acid in the strength of gr. xx to the ℥j would not cause an erythematous condition of the surrounding parts. Is this too strong a quantity to use, or shall we expect the erythema when using it in less quantities?

Dr. Jensen replied, regarding the oleates, his experience in their use had not been so great as in using the acid remedies; he had, however, used the oleates of zinc, mercury, and copper, and found them to be very efficient, neat, easily absorbed, and easy to apply. Regarding irritation from the use of chrysophanic acid, this does occur, but by adding opium or bismuth we can prevent it to a considerable extent, or we need not apply the remedy in such strength as we formerly did.

Dr. Reynolds said chrysophanic acid does cause the eruption spoken of, but it was more apt to do so when applied or used in conjunction with arsenic administered internally. The erythema produced is analogous to a mild inflammatory condition produced in the mucous membrane of the stomach from too prolonged or too large doses of arsenic.

"Infant Feeding and Summer Diseases of Children" is the subject of an able paper by Dr. C. W. Earle, who reviewed, with some prolixity and pleasantry, a large number of the prepared (proprietary) foods kept in drug stores, with comments upon the merits or demerits of each, as he from experience had found them while using in both hospital and private practice.

We are obliged to greatly abridge the report which the secretary has prepared, and content ourselves with giving the conclusions of his paper as summed up, which were as follows:

1. The most frequent infantile disease in the city during the summer months is entero-colitis.

2. Excluding causes of infant mortality largely beyond our control, improper feeding is one of the chief causes of the great number of deaths among this class.

3. Mothers should nurse their children. In lieu of this a wet-nurse should be procured. If this is impossible, a mixed diet should be resorted to.

4. Artificial foods containing considerable casein are found to be a cause of indigestion and summer disease.

5. In many cases cow's milk diluted with water does not seem to agree with the children. Barley water or rice water as the diluent seems to make a more physiological food.

6. Condensed milk seems to agree with a considerable number of children, but in many cases a sufficient quantity is not used to nourish a child. Used in proper quantities, and diluted with rice or barley water, it is without doubt one of the best of artificial foods.

7. Cream, mutton broth, and white of eggs, are valuable adjuncts to the dieting of children.

8. Whatever the artificial food a child is having, the physician should examine frequently for evidences that it is a proper food as regards quality and quantity. The normal elevation of the fontanelles and increasing weight are among the conditions denoting a satisfactory and favorable nutrition.

DISCUSSION.

Dr. J. S. Knox stated that he judged from the paper to which we have all attentively listened, that the author had been a bottle-fed baby, the same as he himself had been. Upon inquiry in this respect, the speaker was answered affirmatively. However this may be, he differed from the writer somewhat as to the causes of entero-colitis and the other allied summer bowel-affections of children. Regarding improper diet, this in part is true as a cause, but the principle causes that produce it arise or are peculiar to the hot weather of summer. Heat produces nervous exhaustion in a child; they become restless. The anterior fontanelle is a little depressed, and the trouble at first is, nervous exhaustion of a child; or they become depressed, perhaps, is a better way to express it. Urgent thirst comes on. Then, too, a child is "wrapped up" too much, and the bottle-fed baby is especially enveloped in flannels, and the result is they become more thirsty. Milk and the farinaceous food used become sour, and these are frequently given to the baby, which produces fermentation, indigestion, and diarrhœa. A baby from three months of age to a child ten years old may need diffusible stimulants in the morning before breakfast to stimulate their nerve-centres during hot weather, such as a little spirits of camphor, aromatic spirit, or valerianate of ammonia, or even whiskey toddy. He has practiced giving his children occasionally a little toddy in the morning, and they have never had any bowel disturbance. A child should be fed at regular intervals, not too frequently, but instead give them a drink of pure, fresh water. Farinaceous foods must be prepared fresh only at time of administering them. Omit giving them oatmeal. If Ridge's food is given, prepare

it with cream, and withdraw giving a child milk. We can give almost any of the farinaceous foods or gruel, and it may be well to add a little lime water. Test the food given if necessary, also the excretions, with litmus paper, to see if there is an acid reaction. Excessive heat will be likely to produce a heat diarrhœa. When the little one is overheated, give the child a cold-water bath; repeat this three or four times daily, on the same principle that we should for the heat of a typhoid fever patient. He has frequently seen a baby drop asleep while it is in a bath of cold water. The cause most likely, I feel assured in stating, is, that it arises from heat, such as we have prevailing here mostly in August; and exhaustion, fermentation, irritation, interference with nutrition, and catarrhal diarrhœa, supervene.

Dr. F. E. Waxham differed with both the writer and the gentleman who had preceded him, as to the causes. The greatest cause is the combined effect of *improper feeding*, *heat*, and *impure air*. The latter is found in poor localities, in small houses, ill-ventilated, that are perhaps also stifling with heat, where, maybe, there are several in one bed, where an old pair of boots and filth are just as likely as not to be seen under the bed, etc. If the cause were due to improper feeding alone, they would die as readily in the country. If from excessive heat alone, they would die in our better districts as soon as if they were in the poor localities; and they would also die as rapidly in the country if the cause was due to excessive heat alone. Sudden fluctuation in the temperature is another cause, if combined with other causes. There are greater fluctuations of the atmosphere in Chicago, New York, Boston, and Omaha, than in New Orleans and San Francisco, it being more uniform in the two latter-named cities. Regarding cerebral disturbance as a complication, as the author claimed, now, when this is present, what is its cause, significance, and treatment? If a child should be attacked with a convulsion during an illness of entero-colitis, does it indidicate cerebral disturbance, or is it due to reflex irritation? It is the result of pain, and we should resort to giving an opiate and the bromides. There may be impending danger of hydrocephalus or meningitis. A blood stasis may form under the finger-nails. Now, why may not a serous exudation occur in the ventricles of the brain from want of tonicity of the blood-vessels? If so, then we must give quinine and stimulants. It may be a gradual softening of the brain that is coming on.

The speaker then cited a typical case of "cholera infantum" that had passed through these various stages of what he supposed had occurred in the cerebrum, corresponding to the appearance just described under the finger nails, when the child, after a fortnight of careful nursing and treatment, recovered.

Dr. D. M. Tucker thinks children do not require "whiskey toddy" in the morning before they have been taken ill, as one gentleman stated. In obstetrics, too, a nurse generally wants to give toddy to a baby almost the very first thing she does after the baby is born, which is also equally as pernicious. Then again, we are not called to see a baby until they have become pretty sick—very sick—and the very first thing we should do is to early regulate the diet, if it needs to be done, and if the baby has been taking toddy we should order it discontinued.

Dr. E. F. Gaston is of the opinion that babies died often times of inanition, and that the mixed diet and dilution of milk was in many instances overdone, and the little ones did not get sufficient nourishment to sustain them; this applies particularly to infants bottle-fed that are but a few weeks old.

Dr. John Bartlett: The field is well covered by the views advanced in the paper and the discussion. He would not, therefore, attempt to say more than a few words. He thought, however, the sweetness of condensed milk is destructive to digestion, and that that feature should be against using it generally. The causes of entero-colitis are several: whether heat, sudden atmospheric changes, irregularity of diet, constitution of a child, fermented foods, etc., all these combined, no one will deny, act as causes. He had had good success in these cases from using peptonized food prepared by J. L. Smith, and the pancreatic extract of Fairchild; yet he did not wish to recommend them as being superior to many other food preparations.

Dr. J. E. Walton inquired of the last speaker how frequently he would order the prepared foods he had just named to be given. Answered, every three or four hours to most cases.

Dr. J. J. M. Angear: According to physiologists, children cannot digest starch until there is a saliva, yet we give starch in the treatment of these cases. His observation as to the causes of these summer troubles are these: First is "overfeeding;" then again, some cows' milk will not agree with children, and we wonder why this is so. He explained the cause of this very satisfactorily by several illustrations, where, for instance, babies are fed on swill-milk, or where the cows are fed on slops from distilleries, and also where 150 to 200 cows are kept in a pen covering perhaps one acre of ground, where the mud becomes one or two feet deep, where the stench arising from these cow-pens could be felt "with a stick." The milk such animals gave would present several different colors of the rainbow, if allowed to stand a short time before using, and then if given to a child, why, of course, it sickened it. In London, cans of milk designed for children were sealed by an official "milk inspector," having his seal or stamp on the cans as being a superior quality of milk. If this valuable idea were carried out here, he thought our little ones would be supplied with a better grade of milk. Heat also produces the disease. How? By depressing the nerve centres of the brain. Yes, heat not only affects the cerebral centres, but the cells of every portion of the body; heat acts first by stimulating these cells, then the cells die and contaminate the blood, and this material enters the bowels; and here the cold water bath comes in as the first thing we should do to save the vitality of the cells.

Dr. H. J. Reynolds, regarding the etiology, as heat, imperfect feeding, filth, impure atmosphere, placing a child in a heated room, etc.—besides all these, a peculiar atmospheric condition may produce it where none of the other causes are present. The speaker alluded to electricity as a cause having much to do with it.

Dr. C. E. Webster: Respecting starch as a food

for infants, it may be interesting to note that recent experiments have demonstrated that the saliva of infants is capable of converting starch into sugar as early as the sixth day after its birth. The following deductions are also appended: The practical value of this discovery is limited, however, by the fact that the saliva is a very small factor in the digestion of starch; the intestinal and pancreatic juices must aid, its ferment is only capable of acting in an alcoholic solution, it is inoperative or wholly destroyed in the stomach, and the digestion of the starch takes place after the passage of the food into the small intestine. These being the facts, it is evident that the matter of infantile digestion of starch requires further investigation.

Dr. G. C. Paoli thinks opium is a very frequent cause of death of little children having these bowel difficulties; that they should have better diet, fresh air, and, lastly, that better hospitals for them should be erected. These hospitals will do more to save them than some of our large churches. Removal to a hospital or sanitarium from the slums and alleys where often they are fed on stale bread, where there are decaying vegetables, will save many lives.

Dr. F. H. Martin spoke of the sanitarium recently erected at the foot of Twenty-fifth street, on the Lake Shore, conducted by Jewish ladies. There are kept a number of fresh milch cows, fed on clean grass and bran, and twenty-five to fifty babies and little children are given daily sweet milk and crackers at this place.

Dr. J. H. Etheridge and others closed the remainder of the discussion, but added nothing of special importance in addition to the above remarks.

This was followed by a paper on "A Theory of the Cholera," or "Two Theories as to the Mode of Advance of Cholera," by Dr. John Bartlett, of which we append the substance of the papers in the following somewhat extensive abstract, the paper as originally read by him being very lengthy. This portion of Dr. Bartlett's paper will be read with much satisfaction and interest, if it be known that the illustrations made use of, the "Army Worm" and the "Marsh Fungus," had been carefully studied in the field by him as long ago as the year 1861.—*L. H. M.* (See Dr. Smith's report as Entomologist for the State of New York of that year.)

The writer has also had ample experience with cholera.—*L. H. M.*

(To be continued.)

EDITORIAL DEPARTMENT.

PERISCOPE.

Pneumonia, Bronchitis, and Pleurisy Treated Antiseptically.

Dr. Wm. F. Hamer reports these cases in the *St. Louis Courier of Medicine* for April, 1884.

Case 1. B. S., aged 23, was taken with a chill soon followed fever, oppressed breathing, and all the symptoms of pneumonia. When I saw him his pulse was 115, temperature 103°. The bowels befng constipated, I ordered as an enema a quart of warm water, with a teacup of sweet milk, and about a tablespoonful of common salt added to it —all of this to be thrown into the bowels at once. This relieved them in a few minutes. I made counter-irritation over the affected part with ground flaxseed sprinkled with mustard made into a poultice, and internally gave the following:

℞. Quiniæ sulph., gr. xx.
Pulv. iodoform (pulverized very fine), gr. x.
Granulated acacia, gr. vj.
M.

Triturate well in a mortar, and make capsules No. x.

Sig. One every 3 hours alternately with:
Sodæ hyposulphitis, ʒiss.
Tinct. verat. viridis, gtt. xviij.
Syr. pruni virg., ʒiij.
M. Sig. Teaspoonful every 3 hours. Shake well.

At my next visit, which was ten hours from the first: Pulse 110, temperature 101½°. Suffering very much relieved. In two days expectoration commenced, having its usual character, rusty sputa; the height of the attack was reached by the fifth day, and on the eleventh day he was out on the street, feeling, as he expressed it, "all right." This was all the treatment used in this case, and four others of about the same nature which it is not necessary to relate, only some whiskey was used to make some panada and egg nog. These patients had less pain, less cough and fever, and all made good and speedy recoveries. At the same time I had other cases of pneumonia and treated them in the old way, as I call it, antiphlogistically, and giving cough syrups of different kinds, carbonate of ammonia, etc. They were more tedious, suffered more pain, and did not recover under fourteen and twenty days.

Case 2. Miss S., aged 18, had had a chill, and was suffering with sharp pain in the side, accelerated respiration, short cough, and fever. Diagnosis, pleurisy. The bowels were opened with sulphate of magnesia. To the painful part an application was made of equal parts of belladonna and aconite liniment, covered with a hot sand-bag: internally,

℞. Sodæ hyposulphitis, ʒiss.
Tinct. verat. viridis., gtt. xviij.
Syr. scillæ, ʒ iij.
M. Sig. Teaspoonful every 2 or 3 hours. Shake the bottle well before pouring it out.

This was to be given alternately with the same capsules as in the pneumonia cases. I saw her in eight hours. Respiration was easier, pain less, and all the symptoms better. Instead of the sand-bag, a flax-seed poultice was used. This treatment was continued, and she made a speedy recovery. Two other cases were treated in the same way, with like results. In fact they all re-

covered quicker than by any other treatment that is recommended.

Case 3. Mr. L., aged 29, called me to see him. I found him depressed, and having high fever, tightness across the upper and anterior part of the chest, short, sharp, dry cough. The bowels being constipated, I ordered a dose of Rochelle salts, and covered the upper sternal region with a large linseed poultice, sprinkled with mustard. I also ordered inhalations of steam, combined with hops and a little carbolic acid. Internally, I gave the same capsules as before, and the following drops:

℞. Sodæ hyposulphitis, ℥iss.
Tinct. aconiti radicis, gtt. xviij.
Syr. scillæ,
" " pruni virg., āā ℥iss.
M. Sig. Teaspoonful every 2 or 3 hours.

This was continued 24 or 36 hours. The patient was seen but once, and made a speedy recovery.

Now this is what I call the antiseptic treatment, and these are septic troubles.

Is Acute Pneumonia an Infectious Disease?

Dr. Flindt (Damsö) told the late International Medical Congress that he had endeavored, over a series of years, and by means of epidemiological observations, to clear up the etiology of acute croupous pneumonia. His researches had convinced him that there were preponderating reasons for considering pneumonia as an infectious disease. Among the most conclusive epidemiological facts, he reckoned the following: A preliminary rigor was so rare in a pulmonary disease that it was quite impossible to look upon chill as the essential and single cause of pneumonia. In spite of the closest attention, he had been unable, except in 8 per cent. of his cases of pneumonia, to demonstrate, or to render it probable that the individual before the illness, was exposed to risks likely to lead to cold affections. In 92 per cent. of all his cases, the supposition of any chill whatever had been certainly excluded. The occurrence of cases of pneumonia relatively to the seasons did not prove that it was produced by cold; on the contrary, it contradicted such a supposition. It was an incontestable fact that croupous pneumonia showed on the average, the greater number of cases in the spring months, and the least in the autumn; but this fact did not authorize the assumption that atmospheric influences constituted the essential cause of pneumonia. Among the observable and appreciable atmospheric conditions, it was rain only which showed a certain relation with the seasonable occurrence of pneumonia, the annual curve of the frequency of pneumonia being in inverse proportion to the annual curve of the quantity of rain. But neither cold, nor rapid changes of temperature, nor a combination of cold and damp, showed any constant relation with the frequency of pneumonia. Also the unequal frequency of pneumonia in different years militated certainly against the idea, that the essential cause of the disease was to be sought in the state of the weather. In contrast with ordinary years, the disease showed in certain years such a frequency that, as regarded pneumonia, these years should be regarded as true epidemic years. If pneumonia were truly the result of cold, and if it was in direct relation with known atmospherical conditions, it ought to be easy to show the predominance of these assumed conditions of the tidal years of pneumonia. But no one had been able to show any such predominance in the epidemic years. They were, therefore, forced to look for the essential factor in pneumonia outside atmospheric conditions. Pneumonia never appeared equally spread over the population; it was always aggregated in small local epidemics and endemic outbreaks; often it formed purely domestic epidemic and endemic outbreaks. This phenomenon, which was so usual in the disease that it gave a characteristic stamp to the epidemiological physiognomy of pneumonia, was utterly irreconcilable with the theory of cold; it could not be understood, except on the supposition that the disease was an infectious disease. By means of exact observation, a considerable number of cases of pneumonia were found which, after a more or less distinct fashion, laid the transmission of the disease from person to person to the account of contagion. A whole series of people were seen to become ill, without its being possible to find out any of the common causes of the disease; on the contrary, the cases were seen to follow, the one upon the other, like a chain; in certain confined places, above all in certain houses, which had been always, or for many years, free from the disease, the first case of pneumonia appeared under circumstances which showed that a close contact had existed between the patient on the one side, and persons previously affected, or their houses, on the other; and when a first case of the disease had appeared in a place previously free from it, this case seemed to be a starting point, and to constitute a true centre for the further spread of the disease; for it was not only the members of the same household, but also strangers visiting the affected house, who were specially seized by the disease. It was correct to assume that intercourse between the healthy and sick played an important part in the spreading of the disease, which necessarily affirmed the supposition of the infectious and specific nature of pneumonia.

Management of the Third Stage of Labor.

Before the late International Medical Congress, Prof. Stadfeldt (Copenhagen) read a paper in which he gave the result of the expectant method of treatment, Credé's method, and the Dublin method. In the expectant method, as practiced in Copenhagen' the placenta was allowed to become detached spontaneously, and to escape into the vagina, unless severe hemorrhage indicated earlier removal of the contents of the uterus. As a rule, the detachment of the placenta took place within about two hours. In Credé's method, circular frictions of the fundus uteri were made immediately after the birth of the child, and during a strong after-pain, generally the third, the placenta was pressed out by a combined concentric and pushing down pressure on the fundus and body of the uterus. The Dublin method was described in somewhat different terms by different authors. As a rule, the chief importance was attached to pressure on the fundus uteri immedi-

ately after the birth of the child. This, he thought, tended to increase anteflexion, and thereby to impede the escape of the placenta. He had, therefore, applied friction to the fundus uteri, as in the first stage of Credé's method; and, when the placenta had escaped into the vagina, it was easily removed by the help of two fingers, with simultaneous gentle traction on the umbilical cord. In a few cases, where the placenta was not expelled at the end of half an hour, he made a depressing movement through the fundus. When these methods failed, the placenta was removed by the introduction of the hand into the uterus. Dr. Stadfeldt had treated a large number of cases by each of the three methods above named, and gave the results. From his statistics he excluded all cases of abortion and of placenta prævia, cases in which the contents of the uterus were putrid, and some cases of very difficult labor. From April 1, 1863, to March 31, 1867, he followed the expectant method in 1,780 cases; from September 1, 1877, to February, 1, 1881, Credé's method in 1,611 cases; from May 12, 1882, to February 15, 1884, the Dublin method in 971 cases; and from February 16 to May 30, 1881, the expectant method in 198 cases. The results indicated that, when compared with the expectant method, that of Credé was preferable. Detachment and retention of the membranes, or of small portions of placenta, indeed occurred more frequently; but the preponderance was not great (2.3 against 1.8 per cent.), and any danger might be obviated by the use of antiseptics. On the whole, it seemed to him that the objectors to Credé's method were wrong in attaching too much importance to its disadvantages, and overlooking the fact that it removed the dangers attendant on the expectant method during the time of waiting, especially outside lying-in hospitals. It could not, however, be denied that the proper and safe application of Credé's method required so much intelligence and accuracy, that it might be attended with danger in the hands of unskillful persons, and, therefore, it was not thought right in Copenhagen to teach it to midwives. On the contrary, the Dublin method was easily learned, and was free from the dangers of the expectant and Credés methods; on the one hand, it diminished the liability to flooding and to retention of the placenta; and, on the other, removed the danger of separation and retention of the membranes. It had been said that Credé's method, by favoring retention of the membranes and of the decidua, was more liable than the expectant method to give rise to puerperal disease and mortality. The contrary was the result in Dr. Stadfeldt's experience; the figures being, with the expectant method, for disease, 24 per cent., and for mortality 1.9: with Credé's method, disease, 18.3 per cent., mortality, 0.6 per cent. In both series, antiseptics had been used with equal energy. He believed that, in the present day, retention of the membranes had little influence on puerperal disease and mortality, provided that strict antiseptic precautions were carried out during labor, and that the accoucheur abstained from unnecessary meddling during the lying-in period. Large portions of decidua might even be left in the uterus without becoming septic, and without giving rise to self-infection of the patient.

Reviews and Book Notices.

BOOK NOTICES.

A Text-book of Medical Jurisprudence and Toxicology. By John J. Reese, M. D. 1 vol., 8vo., pp. 606. P. Blakiston, Son & Co., 1884.

There has long been needed a work like this one. The student of the subject has had to choose between very prolix and expensive treatises by American writers, or those prepared by foreigners, whose customs and laws differ so much from ours that it materially detracts from their usefulness.

In this single volume, printed in clear type and on excellent paper, Dr. Reese presents all that the student or the general practitioner will have occasion to learn about the subject. It is no light guarantee of his fitness for the task that he has been for twenty years a teacher of this branch, and in various official positions has had unusual opportunities to acquaint himself with legal usage, as well as with the medical facts.

He begins with the signs of death and the method of making a post-mortem examination. The question of personal identity and the various causes of death follow. Death from poisoning and toxicology in general receive very full consideration. Next, the numerous sexual questions in legal medicine are taken up, such as pregnancy and its determination, criminal abortion and infanticide, rape, and legitimacy. Fifty pages are then devoted to a discussion of the various forms of insanity, as they present themselves to medico-legal inquiry, and this is followed by two chapters, on medical malpractice and on life insurance, which close the book. It will be seen that it is sufficiently comprehensive to meet the wants of all ordinary students of the subject.

Suicide in Germany.

It would seem that suicide is of much more common occurrence in Germany than in England. In the forest called Grunewald, near Berlin, there is a special place of burial for those who have put an end to themselves by hanging or otherwise in the forest. A notice has just appeared in one of the Berlin papers that, during the last few weeks, scarcely a day has passed without the body of a suicide being found and buried there, so that the burial-ground is now almost full. But Saxony is even worse than Prussia in this respect. The rage for suicide seems to increase relatively in a greater proportion than the population. In 1872, there were in Saxony 687 suicides, *i. e.*, 266 to a million inhabitants; in 1877, this number had increased to 1,114, that is, 403 to a million inhabitants; in 1882, there were 1,872; and in 1883 (last year), 2,004 suicides, of whom 1,081 were of the male and 923 of the female sex.

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MIRYACHIT.

Dr. W. Hammond described, February 16 of this year, in the *N. Y. Medical Record*, a peculiar nervous disease, which is said to be endemic in the neighborhood of Yakutsk in Siberia (see REPORTER, March 15, 1884, p. 343). It consists in the involuntary imitation of sudden movements and actions of others by those suffering from the disease. For instance, the captain of a ship suddenly clapped his hands before his face, and the steward, whose disease the captain knew, at once imitated the motion. Though the patient got very angry about it, he could not but submit to the force within him, which induced him to imitate any action he saw others do.

Dr. Beard (*Journ. Ment. and Nerv. Dis.*) mentioned a similar disease, which is endemic in Maine and New Hampshire. Here the so-called "jumpers" at once execute any order which is given them in a loud voice and decided tone. They also repeat involuntarily spoken words.

In Number 14 of the *Hosp. Tid.*, Brochner remarks, that such cases have been formerly reported. See Daa (*Nat. Udvikling, Kristiania*, 1869, p. 150 ff.), where he speaks of the nervous disease which Pallas ascribes to the natives of Siberia. If such patients are tickled, suddenly accosted, or frightened in another manner, they fall into a kind of rage, in which sometimes suicide is committed.

Dr. Rabl. Rückhard, whose article in the *Deutsche Med. Zeit.*, 55, 1884, we have to thank for this information, also mentions Dr. E. Metzger, according to whose report (*Globus B.* 42, p. 381,) there exists in Java a disease known by the name of Sakit-latah. The patient imitates everything which anybody that succeeds in frightening him shows him how to do. First he does it offering resistance, later the imitation becomes purely mechanical.

Privy Councillor Mettenheimer, in Schwerin, wrote to the *Deutsche Med. Zeit.* that this neurosis (morbid compulsory imitation) is by no means limited to Siberia, but very prevalent amongst the nations of the Malay Archipelago, and is known by the same name as in Java, Sakit-latah,

and is met with mainly in women of a nervous temperament.

Such women have to imitate everything which healthy persons *want* them to do. They cannot help themselves—the imitation being compulsory. It seems, however, that the disease is not a continuous one, and that the patient must first be in a peculiar ecstatic condition ere the compulsory imitative desire presents itself. That this really is the case, and that the brain probably is the seat of the disease, may be imagined from the fact that when in this ecstatic condition the patients repeat with ease and fluency words in languages utterly unknown to them, and to them very difficult to pronounce. A medical work by W. A. von Rees, published some fifty years ago, gives a detailed description of the sakit-latah.

The editor of the *Deutsche Med. Zeitung* adds to the foregoing a remarkable observation of his own.

"A Pole, æt. 27, suffering from pneumonia in its worst form, was attacked during the acme of the disease by active delirium and convulsions. Called to see him, I first quieted him with a hypodermic injection of morphia, after which the convulsions ceased for a time. During this pause I asked him a few questions, when to my surprise, instead of replying, he repeated, word for word, what I had said, though his mind did not seem affected. The affair astonished me, having never made such an observation, except in hypnotic individuals, and I determined to test him further. I first spoke some words, then whole sentences, in all the languages known by me. He repeated every word plainly and in the same rhythm as I had employed—now slow, then fast. The patient was a very illiterate man, nevertheless he repeated the beginning of the Odyssey in Greek, the commencement of the Bible in Hebrew, Horace's *Integer Vitæ* in Latin, and some English, Italian, Spanish, Danish, and German sentences. Notwithstanding the grave situation of the patient, the whole affair had something comical about it.

"To my regret, I had no further opportunity of experimenting with the patient, for he fell into a deep sleep after the morphia injection, and I had to leave town an hour later. The next morning I saw the patient once more; he was perfectly conscious, but in the beginning of the agony. The convulsions had ceased, but all attempts on my side to induce him to evince the same compulsory imitation were in vain. The same evening he died."

The writer of these lines had for some years a patient also suffering from pneumonia. An hour before his death several questions were asked him; instead of replying, he repeated them. Death being plainly approaching, no further importance was attached to the fact mentioned, and if we remember rightly, the symptom is not so very rare during the agony of death.

THE TREATMENT OF EMPYEMA BY ELECTRICITY.

We are not generally inclined to believe all the favorable results which electropathists so often claim to have obtained by treating certain diseases with electricity. But of late the reports accumulate with reference to the successful application of the induced current in cases of empyema. It is especially from Italy that these reports come.

There have thus far been eight cases published by well-known reputable Italian authors, in which patients suffering from large pleuritic exudations had refused operative interference, had been treated in the usual manner without success, and at last been cured by faradic electricity. Dr. Guiseppe Manzini, who has gained a well-merited reputation for skill and veracity, now publishes two more cases from the medical clinic of Modena.

Both cases are described in detail. One suffered from a sero-fibrinous, the other from a serous-pleuritic exudation of large extent. In both cases every known treatment had been tried in vain, and thoracentesis seemed to offer the only chance, when electricity was proposed. A large metallic plate was directly applied to the place of dullness posteriorly, while a common sponge-electrode was held anteriorly to the chest an inch or two below the nipple. A faradic current, strong enough to cause visible contractions, was then allowed to pass through for about twenty minutes. The application was daily repeated, and after the fourth *séance* the dullness had lessened by several inches. In the second case fifteen applications were necessary, before a diminution of the exudation could be noted, but five or six *séances* later the whole dullness had disappeared. Both cases totally recovered without any

untoward symptom, the exudation not reappearing. It may further be well to mention, that in none of the cases retraction of the thoracic wall set in.

Manzini cautions, however, not to apply the faradic current until every sign of active inflammation—fever, high temperature—had disappeared; not, therefore, until the end of the acute stage, for otherwise the employment of the electrical agent is followed by great increase of fever. The high authority of Manzini should be sufficient to stimulate others to make further trials of the effect of the induced current in cases of pleuritic effusions.

INGROWN TOE-NAIL.

Dr. Monod, in the *Union Méd.*, contends that in cases of ingrown toe-nail, to effect a radical cure, the removal of the nail may be avoided by thorough cauterization of the ulcerating or granulating place with nitrate of silver. He says that one single cauterization will suffice, though correctly-fitting shoes will always form the main element in the prevention of the recurrence of the trouble.

We have several times drawn the attention of our readers to a method of treating this complaint, which is not only far milder, but also just as sure in removing the difficulty. The simple procedure, for the reliability of which we can vouch on account of a great personal experience with it, is as follows:

The sore in ingrown toe-nail is caused by the pressure exerted by the shoe on the *middle* of the diseased nail. Anybody, by looking at the nail of the large toe (the one generally affected), can convince himself that the middle of the nail is higher, more prominent than the sides. But in ingrown nails it is not only that, but also much thicker. By using the least pressure with a finger on this centre, one can at once see how the irritation, and as its consequence the ulceration, are produced.

The most rational way of treating the difficulty consists, therefore, in the scraping off of this very centre of the nail. This is best done by means of a piece of broken glass, and the scraping should be continued until the operator nearly reaches the flesh. There is one symptom which at once indicates that enough has been removed, viz., pain. Until within a line or so of the flesh there is not experienced the least sensation by the person undergoing this operation, and the moment the procedure causes a sore feeling, it should at once be stopped. The same shoe can then be worn; within a day or two all pain will cease, and shortly after the ulceration be healed; for there is no longer any pressure exerted upon the centre of the nail, driving the edges into the flesh and causing the soreness. When the nail has grown sufficiently to be cut, it will be observed that for a certain distance the nail has split in the centre. Whenever the nail has grown so far as to be of the same thickness in the centre as before, the operation of scraping has to be renewed. By doing it in time, all future trouble may be avoided. Once every three months is about the usual time. The method has not failed in a single case in which we have tried it.

THE COURAGE OF PHYSICIANS.

The courage which was displayed by King Humbert in entering Naples, and visiting its plague-ridden slums, fully deserved the encomiums it received throughout the world.

It should, however, be remembered that hundreds of obscure examples of equal bravery, on the part of the attending physicians, pass without comment every day. They expose their lives not merely during a passing visit, but for weeks and months. Only the ignorant, vulgar class credit them with the knowledge and use of secret means of protection, which they reserve for themselves.

Yet it is curious to observe what return they get for their self-devotion. Both in Marseilles and in Naples the populace hooted them, and even pursued them with sticks and stones. Precisely what the prejudice was, is not clear. They were accused either of having introduced the disease, or of poisoning the sick.

But even their heroism seems left in the shade by the ardor of a young Pole. This individual,

in a card published in the Warsaw *Courier*, offers himself in the interest of science as a subject to be experimented upon in reference to cholera. "I am unmarried," says he. "I have no ties of any kind, and no plans for the future. I therefore wish to be of use to humanity by undergoing any experiments which have not yet been tried upon human beings." He says he is twenty-four years old, healthy, and wants no reward.

Whether a hoax or a real offer, this is nothing more than what has repeatedly been carried out by physicians. Auto-inoculation of various organic poisons has been repeatedly practiced, sometimes with fatal results. Not a few deaths could be recalled, the results of experimenting with dangerous and unknown drugs. The desire to test new agents and to study diseases on the spot has led many an aspiring young doctor to his death. These are unremembered heroes, who have no Homer to chant their praises. All the more should their deserts not be left unmentioned.

THE PROGRESS OF CREMATION.

The claims of cremation as a method of disposing of the dead have lately been urged, on grounds that will be sure to secure for them a respectful hearing. This is nothing less than its superior economy. Appeal to the pocket, and our people are ever willing to lend an attentive ear, and to sink their prejudices.

The immediate occasion of this advocacy of incineration, is the problem of how to dispose of the paupers of Brooklyn when they die. The suggestion to erect a crematory for them comes from "official" quarters. Economy is one of the objects of this proposal, and another is the promotion of the public health. Sentimental reasons cannot be urged against cremation in this case with much force, for heretofore the unclaimed dead of Brooklyn have been treated with the utmost disrespect, being buried in packing and soap boxes, and these latter used over and over again, although the City of Churches paid the money for coffins and decent burial.

Whether burning the remains would after all be any cheaper than stowing them away in the second-hand soap boxes, has not yet been demonstrated, and on the face of it, it looks doubtful. That it would be a little more decent, more creditable to the city, need not be urged.

With the enormously increased density of population certain to come in a few years, the problem here presented will attain more and more serious magnitude. There is no better solution of it than a cheap and expeditious means of incineration, and we confidently look forward to this being generally adopted.

NOTES AND COMMENTS.

Caffein and Adonis Vernalis.

In the last meeting of the Berlin Society for Internal Medicine, before this summer vacation (June 30 c.), Dr. Michaelis reported a case in which all other diuretics had proved useless, and digitalis produced dangerous symptoms, forbidding its employment. (Deutsch. Med. Zeit., p. 45, No. 56.)

The patient, a man æt. 50, was suffering from pneumonia of the whole left side, and besides from an enormous ascites and left-sided œdema. With each paracentesis 6–8 liters of fluid of very low specific gravity were discharged; but the fluid always rapidly re-accumulated, and, digitalis having been administered a long time, diuresis suddenly ceased, and disagreeable disturbances of the heart's action set in. Having just then read of adonis, Dr. M. tried this remedy. The patient had then for some time been daily passing about 10 oz. of a very concentrated urine, and his pulse intermitted. A decoction of adonis (℥j to f. ℥vj) was given, and already within the next twenty-four hours the patient discharged a pint and a third of urine; and, on the second day, the quantity passed within the last twenty-four hours amounted to 2½ pints, of a specific gravity of 1022. M. had to leave the city for a few days; the physician who took his place omitted the adonis, and M. found on his return the patient in the former miserable state. Digitalis was then once more tried, but it evinced no diuretic effect; when adonis being resumed, the quantity of the daily excreted urine gradually rose to 50 oz., and œdema and ascites totally disappeared. Finally, the patient died of urinary paralysis.

Corvello has discovered in adonis a glycosid, adonidin, which is said to resemble digitalin in its

effect. In the same meeting, the chief of one of the large Berlin polyclinics reported that in every morbid case in which the remedy has been employed, it greatly increased the excretion of urine. Even in persons suffering from a very weak heart the same effect was noticed; and it is remarkable that the urine, under its influence, no matter how much augmented in quantity, retains or assumes a high specific gravity, which, according to Botkin, is to be ascribed to the increase of urates and chlorides, which takes place under the influence of adonis. But though the remedy will occasionally improve the pulse, it does not possess the same tonic effect on the heart as digitalis. An accumulative action has not been observed. But the drug is exceedingly bitter, and yields that taste to no corrigens; it also causes at times nausea and vomiting, and even diarrhœa has been produced by it, though the addition of a small dose of bicarbonate of sodium somewhat improves the action of adonis in this respect.

Caffein in its double salts, is the best remedy where prompt and rapid effect on the heart is needed, no other drug acting so energetically. Its effect is not so permanent as that of digitalis, but in cases of intense dyspnœa, cyanosis of a high degree, small and exceedingly rapid pulse, within a few minutes, if hypodermically employed, caffein will improve the patient visibly, and rapidly bring him decided ease. Subcutaneously administered, the dose is a syringeful of the following solution: Caffein natro-benzoic, gr. lxxx, aqua dest, f.℥ij—℈ij, while internally a tablespoonful about every four hours is given of caff. natro-benz. gr. xxxii, aqua dest, f.℥v.

As a resumé we may say: that in cases of danger caffein natro-benz., subcutaneously employed, is the best remedy in heart disease; digitalis, if a more permanent effect is wanted; adonis, if the intention is simply to increase the flow of urine; while caffein, internally administered, will often assist us, when digitalis has lost the therapeutical effect.

The Contagiousness of Diphtheria.

Dr. A. Jacobi thus concludes an article in the *N. Y. Med. Jour.*, September 27, 1884:

There is probably no spontaneous origin of diphtheria, any more than there is a spontaneous origin of cholera or scarlatina.

Diphtheria is contagious. Severe forms may beget severe or mild forms. Mild cases cases may beget mild or severe cases.

What has been called follicular tonsillitis is *mostly* diphtheria. It is seldom dangerous to the patient, as the tonsils have but very little lymph communication with the rest of the body. But it is contagious.

This form is frequent in the adult, in whom it loses nothing, however, of its contagiousness.

Diphtheria in the adult proves dangerous to the community, mostly because it does not restrain the patient from communicating the disease.

It is apt to last long: Firstly, because most cases occur on a surface covered with pavement epithelium (tonsils); secondly, because of the constant exposure and neglect on the part of the patient. Even without it, diphtheria may last weeks and more; with it, it is subject to sudden relapses. As long as it lasts it is contagious.

As diphtheria is but a mild affection in many adults, who disregard it and frequently do not care to mention its existence, pain in swallowing and moderate malaise being the only symptoms, the question of transmission by means of clothing, etc., on the part of third persons is capable of becoming more difficult to answer than it ever was. Many a case which has been believed to be thus carried is probably one of direct contagion from a patient to a second person, and from this second to a third.

Operative Opening of Pulmonary Cavities.

Before the late International Medical Congress, Dr. E. Bull (Christiania), in a paper on this subject, laid down the following propositions:

1. Abscesses of the lung, which can be diagnosed with certainty, and are so situated that they can be opened through the chest-wall, should be treated in the same way as pleural empyema.

2. The condition is the same with regard to limited gangrene of the lung. If several gangrenous foci exist, each one must be treated separately.

3. Echinococci, and 4, foreign bodies in the lung, are to be treated in a similar manner.

5. In bronchiectasis the formation of a pulmonary fistula is indicated only when the accumulation of stagnant matter in large cavities essentially contributes to the deterioration of the patient's condition.

6. In rare cases of tuberculosis, where a large cavity is the predominating condition, the cavity may be laid open with the view of improving the condition of the patient.

7. The operative puncture of a pulmonary fistula is justifiable as a palliative measure.

8. In cases where diagnosis cannot be arrived at, exploratory puncture is certainly of much

value; positive as well as negative results may be derived from it.

9. Adhesion of the layers of the pleura thoug not to be insisted on as an absolutely necessary preliminary to the opening of pulmonary cavities.

10. Amyloid degeneration is not an absolute contra-indication to a palliative operation.

11. The use of the thermo-cautery is to be recommended both for the opening of cavities, and for the destruction of diseased portions of lung-tissue.

Abscess of the Brain.

A man, æt. 59, suffered for 8 months, from difficulty in swallowing, vomiting, regurgitation of swallowed food, cough, and emaciation. During the last five days before his death, his mind was clouded; he replied to questions in a connected manner, but not accurately. Active motion in the lower extremities was perfectly preserved. (Dr. Hein, *Ber. üb. d. Rud. Hift. Wien.*, 1883.)

Post-mortem.—Above the cardia a carcinomatous ulcer 15 ctm. long. At the point of the right middle convolution an abscess of the size of a walnut; in the centre of the same gyrus another abscess of the size of a cherry. A third abscess as large as a bean was found in the left middle convolution, two fingers' breadth anteriorly to the anterior central convolution; a fourth (cherry) in the marrow of the left frontal lobe; a fifth (walnut) in the head of the left corpus striatum; a sixth (cherry) where the head of the striated body passes over into its tail; a seventh (2½ ctm. long and ½ ctm. wide) at the base of the left lenticular body (interior and outer lenticular capsule intact.)

Dr. Mader, of the same institution, reports the following case: A man, æt. 34, suffered *for three days* from headache, vertigo, vomiting, and abdominal pains. No trauma discovered in the history. Later somnolence, pain in the nape of the neck on motion, not on pressure, left lid contracted. In the centre of the left cerebellar lobe an abscess was found, as large as a hen's egg, and filled with a pungent, fœtid pus. No injury could be detected at the base of the brain, and no exudation was discovered in the middle ear. The cause of the abscess is not explained.

Extirpation of Thyroid Gland.

In the same manner, as Zesas, Schiff, and others, J. Wagner has extirpated the thyroid gland in a large number of animals, especially cats but a few weeks old, for the purpose of determining the effect. A few hours—never immediately—after the operation tremor of the extremities and fibrillar muscular contractions evince themselves. They can first be only felt, later seen, and then exert an influence on the walk of the animals. Occasionally these contractions increase to clonic spasms, which again alternate with tetanic rigidity. The walk had something stiff about it, the legs were put far apart; while respiration was dyspnœic even during the time the animals were free from spasms. Sensation was greatly diminished. In some animals a decided increase of electric as well as mechanical nervous excitability was to be noted, and all the animals died between the second and fourth day after the operation, and they all showed a remarkable tendency to walk backwards. The result of the post mortem in every case was negative; the nervi recurrentes were never injured.

Wagner believes that in general, the symptoms caused by extirpation of the thyroid gland in young animals greatly resemble those following removal of a kidney, so that it may appear plausible that in all such cases of the removal of a healthy organ, certain noxious substances accumulate in the blood (ptomaines?) and exert a poisonous influence upon the central nervous system; for the symptoms are very similar to those induced by intoxication with certain poisonous drugs, though a still greater analogy seems to us to exist between them and those caused by the ptomaines.

The Treatment of Phthisical Night-Sweats.

Many drugs have been recommended for this weakening accompaniment of phthisis, but comparatively few have given satisfaction. With the view of discovering some drug that would control the sweating, and at the same time that would be free from drawbacks, Dr. C. M. Cauldwell instituted a series of observations on a large number of cases. As a result he reports, in the *N. Y. Med. Jour.*, September 27, 1884, that picrotoxin, recommended by Dr. Ringer and Dr. Murrel, more nearly approached the ideal in view than any of the other drugs. It was prescribed for twenty consumptives suffering from profuse night-sweats. In seventeen of the cases the perspirations were entirely checked, or so far diminished as to produce no further debility or annoyance. Even when given in much larger doses than are ordinarily prescribed, it caused no disturbance of the nervous system or of the gastro-intestinal tract—in fact, produced no evil effect whatever. In this respect it compared very favorably with atropine, ergotin, etc. A single full dose of the drug at

bed-time was generally sufficient to control the sweating for twenty-four hours.

Where one dose failed, a second was taken shortly after midnight.

The initial dose, mentioned by Ringer and the English writers generally, is the one hundred and fiftieth of a grain. This was found much too small, and was accordingly increased to one-fortieth of a grain.

Emphysema of the Skin in Diphtheria.

Recommending in diphtheria, when a dangergerous emphysema of the skin threatens life, to make a small incision with a bistoury into the tense skin, Dr. Reitz, in a letter to the *Deutsche Med. Zeit.*, 56, 1884, says that during his residence in Central America, one day his mule, while jumping over a fence, received a considerable wound in the skin of the forelegs by a splinter. His servant made the animal trot back to the city, and the consequence of the rapid motion (?) was the development of an empyema of the skin, causing considerable swelling of the chest, forelegs, neck, and head of the animal. Its exceeding restlessness proved the painful condition and great apnœa of the mule. There was no veterinary surgeon in the place, and so R. determined to take up a fold of the skin and cut it through with the bistoury. He remarks, that cut and jumping aside were both simultaneously performed, the mule anyhow not being in an amicable condition of mind. The swelling disappeared, and the four-footed patient was saved. R. recommends therefore strongly the same operation in the case of an emphysema of the skin developing in consequence of the destruction of the mucous membrane in the pharynx or larynx by diphtheria, as breathing and swallowing continually force more air into the areolar tissue. Such a patient not only suffers a great deal, but also risks death by suffocation.

Lemon Juice in Malaria.

We have already noticed the recommendation of Dr. Tommasi Crudelli, of Rome, in reference to the use of lemon juice in malaria. Before the last International Medical Congress, this Professor gave the following directions for preparing the remedy. A lemon is cut up, peel and all, into thin slices, which are then put into three glassfuls of water, and the whole boiled down to one glassful. It is then strained through linen, squeezing the remains of the boiled lemon, and set aside for some hours to cool. The whole amount of the liquid is then taken fasting. Dr. Mascagni, of Italy, has succeeded with this remedy in curing an obstinate case of malaria in his own person, that had resisted quinine. It is well known that in Italy, Greece, and North Africa; they often use lemon juice or a decoction of lemon seeds, as a remedy in malarial fevers of moderate intensity; and in Guadaloupe they use for the same purpose a decoction of the bark of the roots of the lemon tree. All these popular practices tend to show that the lemon tree produces a febrifuge substance, which resides in all parts of the plant, but which would seem to be most abundant in the fruit. In fact, among the popular remedies employed against malarial infection, this is the most efficacious, for it can be employed with good effects in acute fevers. But it is especially advantageous in combatting the chronic infection, which is rebellious to the action of quinine, and in removing or moderating its deplorable effects.

Intermittent Contractions of the Uterus in the Diagnosis of Pregnancy and its Complications.

Dr. Braxton Hicks, of London, presented a paper on this subject to the late International Medical Congress. He again called attention to the value of this means of diagnosis, and briefly referred to the discussion on his paper in the last Congress, where it was stated that soft tumors of the uterus also contracted at intervals. Presuming that this was ultimately found to be correct in general, the cases in which this would interfere with the diagnosis were pointed out; namely, those in which the fœtus could not be felt, and where hemorrhage was urgent, for instance, where the uterus remained constantly firm, as in some cases of blighted ovum, apoplectic ovum. In these, there was almost always a history of pregnancy, and of recent hemorrhage; while, if there were amenorrhœa or only normal menses, it would be exceedingly rare if it were a soft tumor. He gave three cases; two of pregnancy complicated with uterine fibromata. In the third one, of extreme obliquity of the uterus, it was difficult to say how much was uterus. In all the cases, the exact relation of the uterus was clearly and readily made out by means of the alteration which occurred at short intervals in the density of the uterus.

A Practical Point in the Treatment of Pleural Effusions.

The *Boston M. and S. Jour.*, August 28, 1884, tells us that Dr. Broadbent, in a clinical lecture, says that when he hears distinct bronchial breath-

ng generally over the chest in cases of pleural effusion, he feels sure that a consolidated lung is immersed in the fluid, and he consequently does not tap unless the symptoms are so urgent as to demand interference. A solidified lung cannot, of course, expand, as does one which is simply collapsed or even compressed, unless it is bound down by adhesions; and experience has shown him that on the resolution of the pneumonia the fluid is usually rapidly absorbed.

He seems to hold the sound views that with grave symptoms a pleural effusion should be withdrawn, whatever the complication; that the course of moderate effusion may often be shortened by tapping; but that, if the lung be consolidated—one evidence of which is the persistence of bronchial respiration over the whole or a large part of the chest—is is better to wait, if the condition of the patient warrants such a course.

Antipyretic Treatment of Wounds in Children.

Before the late International Medical Congress. Dr. Rupprecht, of Dresden, said that he thought, the best disinfectant was a one-third per cent. solution of salicylic acid, or for very septic wounds, a four to eight per cent. solution of chloride of zinc. One of the poorest materials for use in operations on children was carbolic acid. The general admissibility of corrosive sublimate solution (1 to 1,000) in childhood was, he thought, questionable. For certain wounds, iodoform in small quantities is indispensable.

The best material for dressings was gauze impregnated with salicylic acid (five to ten per cent) or corrosive sublimate (1 part per 1,000), while carbolized gauze was objectionable. Wood-wool cushions are of advantage for certain wounds. Dry dressings are best for fresh, as well as for large suppurating wounds, but for small suppurating wounds moist dressings are more suitable. In these, however, neither carbolic acid nor corrosive sublimate should ever be used.

In order to prevent soiling of the dressings with urine, he favored covering them with a waterproof cloth, the edges of the dressings being smeared with grease. Other methods of avoiding irritation from the urine were vertical suspension of the child, frequent changing of the dressings, or the permanent bath.

Periodically Recurring Convulsions Caused by Impacted Fæces.

Dr. J. F. Baldwin reports a curious and instructive case in the *New York Med. Jour.*, September 27, 1884, wherein a woman aged sixty-four had periodically recurring attacks of convulsions each day for four days. They were not relieved by sedatives and antispasmodics, which were freely used. Neither did quinine have any effect. Croton oil moved the bowels very freely, and there was no convulsion on the day of its administration, but they returned the next day and continued for two weeks. Examination revealed a mass of fæces as large as a child's head in the rectum. The rest is soon told. The mass was broken down and removed in the usual way, and no more convulsions occurred.

The point of interest in the case is: There had been no history of constipation; the salts taken before he was called had operated freely; there was no constipation subsequent to the commencement of treatment; the croton oil operated copiously and without scybala—yet the rectum was impacted with a tough mass, resembling blue clay in consistence, without producing any symptoms pointing to the seat of the trouble.

Peritonitis Resulting from Diseases of the Vermiform Appendix.

Before the late International Medical Congress Professor With (Copenhagen), dealing with this subject, said that the inflammation of the right iliac fossa, known by the name of perityphlitis, very often began in ulceration and perforation of the vermiform appendix. Peritonitis of this origin was called appendicular peritonitis, and was met with under three forms or conditions, generally well marked; as adhesive appendicular peritonitis (before perforation), and appendicular peritonitis, local or general (after perforation). As regarded treatment, the chief indication was to give the intestinal canal as complete rest as possible. To this end, sufficiently large doses of opium and morphia should be used, as well as complete abstention from laxatives and enematas, kept up for a period of twenty-four hours if that were thought necessary. By means of this treatment, the indication for surgical interference underwent a considerable restriction.

Massage in Rheumatic Gout.

Dr. Douglas Graham contributes a paper on this subject to the *Boston M. and S. Jour.*, August 28, 1884, in which he strongly recommends such *massage as he is capable of administering*, in the treatment of the deformed and stiffened joints of rheumatic gout. He relates eight cases wherein signal benefit was achieved, after having been well-nigh rubbed to death in the ordinary way, besides having exhausted the resources of the materia

medica, baths, and mineral springs of all kinds. While we do not believe in nor do we see the advantage of *too much specialism*, yet it is plainly evident to us that there is a great difference between *rubbing* and *massage*, and we would therefore advise all of our readers who have failed with rubbing, to study up the subject of *massage;* it is a truly valuable therapeutic resource.

Urticaria as a Cause of Miscarriage.

It will be well for us to know that Dr. S. J. Radcliffe (*Med. News*, August 30, 1884,) considers that urticaria is capable of causing miscarriage. He relates a case, which, we must confess, seems to prove nothing; the woman had aborted from obvious causes and she had urticaria, but a relation of cause and effect between the two is not made out. However, Dr. R.'s suggestion is certainly a very good one. We can conceive of no more irritating affection than a severe case of urticaria, and we can imagine that such a nervous, irritable, and generally deranged condition of the system might be produced by it so as to give rise to abortion. However, it will surely do no harm to cure the urticaria, or, at least, to try to do so.

Suppressed Lochia Successfully Treated by Condy's Fluid.

Twenty-six hours after confinement, a woman, about whom Dr. Archibald D. Macdonald writes the *Brit. Med. Jour.*, September 6, 1884, had an attack of what is generally termed puerperal eclampsia. There was no evidence of lochial discharge. Ten drops of Condy's fluid in about three tablespoonfuls of water were given every four hours for forty-eight hours. The lochia commenced and the woman did well.

CORRESPONDENCE.

The Fulfillment of Dreams.

EDS. MED. AND SURG. REPORTER :—

This singular incident occurred on the occasion of the late murder of Mr. R. M. Stribling by I. E. Gladson, at Markham, Fauquier county, Virginia, the former a descendant of Chief Justice Marshall and of Dr. Stribling, so eminent for his treatment of the insane. Two remarkable coincidences have been published in connection with the killing of young Stribling, viz: Dr. Walter Bruce, his brother-in-law, a native of Virginia, now resident at Micanopy, Florida, late on Friday night, December 28, awoke from a sound sleep, feeling there was some mysterious presence in his room, and got up and lighted a lamp; finding no one, he returned to bed and fell into a light sleep, and had a dream or vision of his wife's brother, R. M. Stribling, in a deadly conflict, in which he had his throat cut in a horrible manner, and was removed to a store near by, placed on a counter, and after a lapse of time died from the effects of the wound. Dr. Bruce, though far from believing in "isms," such as spiritualism, visited a medium in the town, who told him that some awful calamity had befallen young Stribling. The vision, and its effects on the mind of Dr. Bruce, prevented him from sleeping. Sure enough, the next mail from Virginia announced the death of his brother-in-law in the exact manner and at the very hour he had appeared to him.

A sister of the murdered man, who was visiting relatives in Kentucky at the time of his death, had also a similar dream, and while relating it at the breakfast-table was handed a dispatch announcing its fulfillment.

The writer's brother-in-law furnishes like experience: While on duty in the British Navy in the Gulf of Mexico, he saw the form of his father in a dream vividly presented pale and ghastly, though when he had lately parted with him at Portsmouth, England, he was in the vigor of his manhood. The succeeding mail conveyed the news of his death at the hour of the occurrence of the son's dream.

The sacred Scriptures, as well as human experience of mankind, assert the fact, if they do not explain the philosophy, of dreams. Joseph, the destined prime minister of Egypt, realized the fulfillment of the dreams of his boyhood; and under the inspiration and warning of Jacob's dream, the life of the infant Saviour was preserved, and the author of Job's grand epic poem tells us how "In a dream, in a vision of the night, deep sleep falleth upon men, in slumberings upon the bed, and then God openeth the ears of men, that he may withdraw man from his purpose and hide pride from man." FREDERICK HORNER, M. D.

Marshall, Fauquier City, Va., May 19, 1884.

P. S.—Gladson was acquitted by acclamation by a Virginia court. Poor Stribling was an inebriate.

F. H.

More About Boils.

EDS. MED. AND SURG. REPORTER:

In the REPORTER of September 5, Dr. G. W. Barr, writing about boils, says: "All attempts to abort or prevent a succession of boils are unsatisfactory."

Now, in reality, their abortion is easy and simple, if treated before there is any really dead tissue to slough out. My own plan is to cover thickly with absorbent cotton and keep it constantly saturated with spirits of turpentine. This will also always abort a felon, if used *early*. Now, to prevent their succession. Put a handful of birdshot in a pint of sweet milk; boil it twenty or thirty minutes and take it for supper. Repeat this for three nights, then omit three nights, and repeat. Then, if a tonic is needed, take ten to fifteen drops of elixir of vitriol three times a day, following each dose with two or three grains of quinine sulph. If Dr. B. will follow the above hints I am sure he will not prefix *un* to *satisfactory*. In place of vaseline, I would advise him to use a paste of *resin soap*, *yolk of egg*, *brown sugar*, and

sweet oil. Now, doctor, if you really feel that your reputation as a surgeon requires you to incise a boil *early*, select your *enemies*, incise freely, and fill the incision with carbolic acid or creasote, and cover with a poultice. For your friends, use the paste and wait till the boil is ripe.

F. R. MILLARD, M. D.

San Diego, Cal.

An Improvement in Caustic-holders.

EDS. MED. AND SURG. REPORTER:

I desire to call the attention of the profession, through the columns of your widely-circulated REPORTER, to an improvement in caustic-holders. For the past twenty years (which includes the period of the writer's experience in the practice of medicine) we have continued using an instrument which physicians generally have regarded as inconvenient, and which soon became useless from the action of the caustic upon the metal with which it was constantly in contact. Physicians have long felt that a better instrument was needed.

While attending our State Medical Society in Philadelphia last May, I called upon Mr. J. H. Gemrig & Son, and explained to them my ideas as to how an improvement might be made. Thinking favorably of my suggestions, they made a few instruments, and soon perfected the one I send to you.

It is not an improvement of the old caustic-holder, but an entirely new and very different instrument. It consists simply of a cross forceps, with long, slender, grooved blades. It is three and a quarter inches in length, and quite neat in appearance. It may be carried in the pocket case of instruments, or in the vest pocket, as the surgeon prefers. The caustic is not carried in the instrument, but in a vial of the pocket medicine case. If the springs are of just the right strength and flexibility, the stick of argent nit. or cupri sulph. is very easily and quickly picked up, and firmly and securely held. With proper care the instrument will last a life-time. By increasing the length of the instrument, it might prove useful in gynæcological practice.

SAMUEL BIRDSALL, M. D.

Susquehanna, Pa., September 25, 1884.

NEWS AND MISCELLANY.

Professor Virchow.

A Berlin correspondent of the *Canadian Medical Journal* for July supplies some interesting facts concerning the great Berlin Professor. "The central figure at Berlin is Virchow. With the exception of the years 1849–56, he has been here as student, prosector, and professor, since 1839. In 1843 he became assistant to Froriep, whom he succeeded as Prosector of Pathology in 1846, losing the position in 1849 on active participation in the political disturbances of that period. He was, however (not without considerable trouble), reinstated, and shortly after was called to Würzburg as Professor of Pathology, returning to Berlin in 1856. Under his direction, the Pathological Institute of the Charité has become the most famous pathological school in Europe; and to name the men who have been his assistants, is to go over those of many of the best-known teachers and investigators in Germany—Klebs, Recklinghausen, Rindfleisch, Cohnheim, Liebrich, Hoppe-Seyler, to say nothing of the younger men, Orth, Ponfick, Salkouski, and others. After 40 years of teaching, it is but natural that he should have much of the drudgery done by his able assistants, Jurgens, Grawitz, and Israel, who conduct the autopsies and the courses on pathological histology. Students, however, have still the great privilege of hearing him in three different classes. For the first three or four Mondays of the semester, from 7:30 to 10 a. m., he performs an autopsy before the class, giving detailed directions as to methods and the proper modes of observation. On Wednesday and Saturday are held the famous demonstration courses on morbid anatomy, in which the material for the week, often ten or fifteen cases on each occasion, is brought before the students. The time occupied is at least two and a half hours, the first half of which is taken up by some special subject, the pathology of which is well illustrated by the specimens at hand. At 11 a. m. he gives each day a lecture on special pathology. Politics and anthropology now absorb the greater part of his time. He is a member of the German Parliament and of the Prussian House of Representatives; and I noticed a day or so ago in one of the daily papers that Virchow had spoken in one of these 38 times during the session. It need scarcely be stated that he is an advanced Liberal. He is also a member of the City Council—not an idle one either, as the copious literature of the "canalization" (drainage) system of the city can testify. His archæological and anthropological studies are most extensive, and it is upon these subjects that he now chiefly writes. When one turns to the Index of the Berlin Archæological or Anthropological Societies, the figures after his name stand thick and deep, just as they do in a similar index on medical subjects. He has been collaborator with Dr. Schliemann in several of the important works issued on Trojan antiquities. His collection of skulls and skeletons of different races, one of the most important in Europe, will doubtless find an appropriate place in the new Archæological Museum erected by the Government. There are those who grudge him the time he spends on politics and his favorite studies; but surely he has earned a repose from active pathological work, and may well leave section-cutting and bacteria-staining to the smaller fry; and when we consider that in addition to the classes above-mentioned, he is president of the Berlin Medical Society, and edits his *Archiv*, now a large monthly journal, it can scarcely be said that he neglects professional duties. On all questions of general, medical, and scientific interest, his utterances are not infrequent, and display a judicious conservatism—as witness his sound position regarding the Darwinian theory, as opposed to the vagaries of Haeckel. It is satisfactory to note that the at-

tack of gouty nephritis of some eighteen months ago appears to have left no trace. Aged, of course, he is (he is now 63), but there is still a vigor and sprightliness in the wiry frame which bespeak years of continued activity."

Oleomargarine.

The war on oleomargarine, which is waged with more or less fierceness in almost every state, has taken a peculiar form in Ohio, where the defence interposed in a suit was that the imitation of butter was made under a patent from the United States, and that it would be an infringement upon the rights of the manufacturer as secured from the United States to prevent him from making and selling his imitation. The Ohio statute provides that any person who shall knowingly sell or offer for sale any article purporting to be butter or cheese, which is not made wholly from pure cream or milk, and is not stamped with the names of the various ingredients, shall be punished by fine or imprisonment, or both. This statute, it was claimed, was in conflict with the rights of the maker of butterine under a United States patent. This reasoning the court held to be unsound, as the possession of a United States patent did not enable a person to violate any of the health laws of a state, and the right of a state or a community to prevent the sale of articles deemed injurious to health was unquestioned in law. It was further decided that a State had the right to prohibit the manufacture of articles under a United States patent if it prohibited the manufacture of all similar articles made without a patent. It was only when a State discriminated against a patented article that a person could properly claim that his rights had been infringed upon by the state legislature.

Legal Evidences of Apparent Pregnancy.

A recent case in the central part of New York State presents a discussion as to the evidence of apparent pregnancy allowable in a suit for slander for charging an unmarried woman with unchastity. The defendant in the suit offered to prove that the physical appearance of the plaintiff was such as to lead a person to suppose pregnancy, and introduced a married woman as a witness for the purpose of asking her this question. The trial judge excluded the question, but on appeal it was allowed, the court holding that it was not only proper under the circumstances for the witness to describe the physical appearance of the plaintiff, but she could give an *opinion* whether this appearnce was such as pregnant women usually presented.

The object of testimony of this character was to reduce the amount of damages which might be awarded, by showing that while a mistake might have been made, there was some apparent ground for giving utterance to the charge of unchastity.

The Stigmata of Maize.

This familiar product has lately come into quite general use for its various therapeutic properties as an emollient, antiseptic, and diuretic. Under its lenitive action the inflamed surface of the genito-urinary tract, and more particularly, perhaps, of the bladder, as in vesical catarrh, is soothed, and the decomposition of urea into the irritant ammonia salts is checked. The flow of the urine is at the same time augmented, and thus we have a combination of the very effects which an intelligent comprehension of a case of vesical irritation would s em to dictate, on the part of the therapeutist.

The demand for corn silk has been rapidly growing since attention was first called to it by Drs. Dassun and Dufau, of Paris, and Prof. Castan, of Montpelier. The fluid extract must be made from the recent drug, and hence can be prepared only during a few months in the year. Messrs. Parke, Davis & Co., who were the first to place a preparation of stigmata maidis before the profession of this country, with the return of the season have laid in a large supply of the drug, in anticipation of a continuance of its popularity.

Hours of Study at Home.

It has often been found that the long lessons given by teachers in the public schools, requiring special study on the part of the scholar at home, have resulted unfavorably to the health of the scholars. A curious instance where this question was indirectly brought up occurred recently in England, where a teacher was indicted for an assault upon a scholar who had failed to learn certain lessons which were to be studied at home. The case, no doubt, went against the teacher on the score of assault; but the judges gave consideration also to the question whether study at home could could be enforced under any circumstances, and decided that such lessons were not proper. The lengthening of the hours of study which such a course makes necessary, results very often in a serious injury to the health of scholars.

Correction.

The Proceedings of the Philadelphia County Medical Society can be obtained from Dr. C. M. Seltzer, librarian, not from Dr. French, as we stated.

Personal.

—Dr. J. M. F. Gaston has been appointed to the chair of Surgery in the Southern Medical College, at Atlanta, Georgia.

Items.

—Prof. L. Mauthner is mentioned as the probable successor of the late Prof. Jäger as Professor of Ophthalmology in Vienna.

—At the conference recently convened by the Medical Society and the National Health Society of Great Britain, the subject for discussion on the first instant was Recreation and Gymnastics. After the reading of several papers Sir James Paget maintained that the English system of gymnastics—namely, outdoor games—was far superior to the German, Swedish, or any other system.

—A woman at Litchfield, Conn., had agreed to take a boy and his sister for their second visit to the place. The boy came alone, however, and being asked about his sister, replied: "Mother wouldn't let her come to Litchfield this year. She says she got the malaria coming out with the fresh air fellers last year." The children live on Baxter street, New York.

—M. Dastre and M. Bourquelot, in a note recently communicated to the *Académie des Sciences* ("Progr. Méd."), give it as the result of their experiments that maltose undergoes direct consumption when injected into the blood of an animal, without having been transformed by any digestive juice. They estimate its practical value as been that of lactose and that of glucose.

—Speaking of the causes of failure in life, Tourgee says: "Trying to carry too big a load. I don't know about a professional man's failing if he works, keeps sober, and sleeps at home. Lawyers, ministers, and doctors live on the sins of the people; and, of course, grow fat under reasonable exertion, unless competition is too great. It requires real genius to fail in either of these walks of life."

—Dr. Gelle, of Paris, has found that twenty to twenty-five per cent. of children hear only within a limited range. A practical result of this discovery is that children are now placed at such a distance from the teacher's desk as will correspond with their strength of hearing. The matter does not appear to have been thought of before, but its obvious importance is now likely to attract attention from our teachers.

—It is proposed to utilize the spawn of the cod and mackerel fisheries, which now are of no comparative value, and by the production of albumen from this source it is thought may yield a profitable revenue. By taking the spawn, separating it from the membrane enclosing it and crushing the mass by machinery, the expressed liquid strained, and reduced in a vacuum apparatus at a temperature of 110° F. to 115° F., the product is said to be entirely satisfactory.

—In the *Indian Medical Journal* of July, Dr. P. Cullen gives a table of thirty-eight cases of leprosy, setting forth age, sex, occupation, family history, etc., of the sufferers. Asiatics, as a rule, do not believe in communication of the disease by personal contact, but are highly suspicious of food which has been handled by a leper. In no case out of the thirty-eight were the living children of the lepers affected with leprosy, and in only four cases was admission made of the disease being present in the parents or grandparents, thus far indicating the absence of heredity in the causation of the malady.

—M. Dubois draws attention to the difficulty of preventing accidents during the administration of chloroform, inasmuch as one of the principal druggist of Paris had furnished him with chloroform containing a considerable quantity of chlorine and hydrochloric acid, which he believed, was independent of any falsification, but probably resulted from its contact with the air. M. Rabuteau observes that impure chloroform should be well shaken and washed in potash and soda. M. Dubois admits the efficacy of the process, but objects that surgeons could not take that precaution before operating.

—The cod-liver oil business is flourishing at Marseilles, and competition runs high. A repudiated advertisement of one of the manufacturers reads as follows: "The cod being one of the small fishes of the sea, is constantly tracked and pursued by its enemies, the whales and sharks, etc., therefore it lives in a constant state of fear; and it is a well-established fact that fear engenders in all living creatures jaundice and diseases of the liver. Consequently, all codfish taken in the open sea have diseased livers. But all my fish are caught in a safe harbor, where marine monsters cannot enter. They live there in peace and comfort. Their livers are pefectly healthy, and that is the reason why my cod-liver oil is the best."

—During the cholera season of 1873 a French physician in Nashville declared that he never lost a cholera patient. Shortly afterward, having gained some notoriety by this assertion, he was summoned to attend a man named White. The neighbors were anxious to see the result of the Frenchman's treatment, and whenever the doctor was seen leaving White's house numerous inquiries were propounded. "How is your patient, doctor?" was asked one morning. "Ze man is dead." "What! thought you never lost a case of cholera?" "Zis was ze first case I had. You not expect a man to lose one case before he get him. I cure ze man of ze cholera, but he die of ze weakness."

MARRIAGES.

JOHNSTON—WILLHIDE.—September 4, 1884, by Rev. J. F. Pennington, A. R. Johnston, M. D., of New Bloomfield, Pa., and Miss Laura T. Willhide, of New Germantown, Pa.

BIRKINS—TUCK.—September 17, in Wilkesbarre, Pa., at the residence of the bride's mother, by the Rev. H. H. Birkins, assisted by the Rev. H. E. Hayden, Dr. Ernest Reeve Birkins, of New York city, and Miss Kate H. Tuck, of Wilkesbarre.

HAVEN—DICKINSON.—September 17, 1884, at the Presbyterian church, Lake Forest, Ill., by the Rev. J. G. K. McClure, Dr. Alfred C. Haven and Kate, daughter of George B. Dickinson, all of Lake Forest.

HOISINGTON—CAMPBELL. — September 9, in Westminster, Vt., at the residence of the bride's mother, by Rev. J. L. Sewall, Walter L. Hoisington, M. D., and Clara S. Campbell, all of Westminster.

OSBORNE—BARNITZ.—September 10, by the Rev. A. M. Barnitz, of Central Pennsylvania Conference, Dr. James A. Osborne, of Milton, Pa., and Miss Anna H. Barnitz, of Shickshinny, Pa., a daughter of the officiating clergyman.

PARTRIDGE—DWIGHT.—September 18, 1884, at Clinton, New York, by the Rev. E. B. Willson, of Salem, Mass., assisted by the Rev. B. W. Dwight, D. D., of Clinton, Dr. Edward L. Partridge, of New York, and Gertrude, eldest daughter of Prof. Theodore W. Dwight, of Columbia College Law School.

RALSTON—DEERY.—September 11, 1884, in Saltsburg, Pa., by Rev. O. Katz, Dr. W. Chalmers Ralston and H. Anna Deery, all of Saltsburg, Pa.

ROBERTS—HAMMITT.—September 3, 1884, at College Hill, Ohio, by Rev. McLean, Dr. Thomas S. Roberts, of Sioux Falls, Dakota, and Miss Carrie S. Hammitt, of College Hill, Ohio.

STILLWELL—MOLLOY.—September 17, 1884, at the residence of the bride's mother, by Rev. Dr. Peddie, Dr. Walter C. Stillwell and Miss Eleanor Molloy, all of Philadelphia.

WILLIAMS—STEPHENS.—September 10, 1884, Simpson F. Williams, M. D., of Orangeburg county, South Carolina, and Miss Dora C. Stephens.

DEATHS.

CLARK.—September 26, 1884, at Lincoln, Mass., Luther Clark, M. D., of Boston, aged 74.

HALL.—September 22, 1884, Dr. Caleb S. Hall, of Westchester county, New York, in the 73d year of his age.

LIENAU.—September 24, 1884, in New York city, Dr. Rudolph Booraem Lienau, in the 38th year of his age.

COOK.—September 23, 1884, at Hudson, New York, Dr. Abijah P. Cook, aged 76 years.